



DEBT FINANCING AND SHAREHOLDERS WEALTH CREATION OF QUOTED MANUFACTURING FIRMS IN NIGERIA

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ABSTRACT:

This study examined the effect of debt financing on shareholders wealth creation of quoted manufacturing firms in Nigeria for a period of ten (10) years covering from 2012-2021. Specifically, this study ascertained the effect of debt ratio on earnings per share; effect of short term debt ratio on return on equity; effect of long term debt ratio on cash value added. Panel data were used in this study, which were obtained from the annual reports and accounts of twenty (21) sampled quoted manufacturing firms for the periods 2012-2021. Ex-Post Facto research design was employed. Descriptive statistics of the dataset from the sampled firms were used to describe using the mean, standard deviation, minimum and maximum values of the data for the study variables. Inferential statistics using Pearson correlation coefficient and Panel Least Square (PLS) regression analysis were applied to test the hypotheses of the study. The results revealed that that a significant and positive relationship exists between debt ratio and earnings per share ($\beta_1 = 0.427130$; $p\text{-value} = 0.0000$); a significant and positive relationship between short term debt ratio and return on equity ($\beta_2 = 0.552358$; $p\text{-value} = 0.0000$); a significant and positive relationship between long term debt ratio and cash value added ($\beta_3 = 0.204575$; $p\text{-value} = 0.0000$). In conclusion, this study found that debt financing has a significant effect on shareholders wealth creation at 5% level of significance. The study recommended amongst others that firms should lever on the amount of debt they undertake to finance their undertakings, as it enhances firms' bottom line. Also, that firms should operate with a capital structure mix that would minimize the cost of capital and maximize shareholders' wealth; finally, government and/or lending institutions should design long term financing options suitable for firms such as credit and equity guarantees as well as industry-based credit facilities that will make long term credit not only available but also affordable.d.



1. INTRODUCTION

Debt financing is a key element in a firm's choice of its capital structure. By generating revenues that would not have been reached without additional funding, external financing in the form of debt or equity capital allows firms to increase its value, which is traditionally considered an ultimate goal of any business. The origin of debt financing can be dated as far back as the middle ages when money lending services were made accessible to traders from the city of Venice (Tabd-Elnaby, 2019). This was followed by the emergence of international banking in the 18th century, led by the Rothschild family. Fast forward to the 1980s, the internet was introduced into debt financing procedures, with Quicken Loans processing loan applications online for the first time (Sarwar, Al-Farya& Saeed (2022).

It refers to the act of borrowing funds from companies and investors through the use of bonds, banks, or financial institutions with refund obligation, in order to support a business's operations. The lender of such fund is repaid the total amount borrowed, plus the interest accumulated on it, at a later point in time (Abuamsha & Shumali, 2022). At the onset, many businesses do not have sufficient funds to operate, let alone sustain their operations. Hence, they decide to borrow, either from personal sources such as family and friends, as is common to small and medium scale enterprises (SMEs), or impersonal sources such as banks and other financial institutions, as is common with large firms. Several means of external financing exist, however, certain reasons exist which compel business owners to opt for debt financing. Funding through debts proves to be critical to business success as it ensures that the business owner is constantly conscious of running the business well so as to be able to pay back such debts. Also it can be less costly as interest paid on money borrowed for business activities are tax deductible (Onyema, 2022). Debt financing instruments like bonds ease the pressure on bank lending, particularly longer-term lending, and allow a wider range of corporate credits to access investment markets and seek more finance than the banks or government agencies could provide. The essence of debt is that the borrower must repay the funds along with agreed-upon service charges such as interest and loan origination fees. If the money is not repaid as promised, the lender can start collection proceedings. This process can become very uncomfortable for the entrepreneur, who could stand to lose the business and any non-business assets pledged to secure the loan. A long-term loan usually has a payback period between one and five years. Depending upon the deal negotiated, these loans are normally secured (collateralized by assets) and guaranteed by the entrepreneurs. Rates and terms on long-term loans vary greatly based on the lending institution's policies and the business's age and financial status (Sinnadurai, 2022).



Wealth creation is the process of investing in different asset classes where the investments will help in fulfilling key needs. These investments should also be self-contained that can generate a stable source of income and helping businesses to fulfill their aspirations. Shareholder wealth is the appropriate goal of a business firm in a capitalist society. In a capitalist society, there is private ownership of goods and services by individuals. Those individuals own the means of production to make money. The profits from the businesses in the economy accrue to the individuals (Omabu, Okoye & Amahalu, 2021). When business managers try to maximize the wealth of their firm, they are actually trying to increase the company's stock price. As the stock price increases, the value of the firm increases, as well as the shareholders' wealth. If an organization fails to earn expected rate, the market value of the share will fall and the shareholders' wealth will be reduced. Similarly, funds raised by issuing debt and preference capital will reduced the market value per share. Industrialization has been accepted as the major driving force of the modern economy. In most modern economies, industrial sector serves as the vehicle for the production of goods and services, the generation of employment and the enhancement of incomes. Hence, Amahalu and Obi (2020) described industry and in particular the manufacturing sub-sector, as the heart of the economy. Manufacturing industry refers to those industries which involve in the manufacturing and processing of items and indulge in either creation of new commodities or in value addition. The manufacturing industry accounts for a significant share of the industrial sector in developed countries. The final products can either serve as a finished good for sale to customers or as intermediate goods used in the production process. Manufacturing industries not only help in modernising agriculture, they also reduce the heavy dependence of people on agricultural income by providing them jobs in secondary and tertiary sectors. Industrial development is a precondition for eradication of unemployment and poverty. In the light of this, this study sought to determine the effect of debt financing on shareholders wealth creation of quoted manufacturing firms in Nigeria. Also, there are risks associated with debt financing such as country's stability, concession period of the funds and financial crisis. In addition, there is the challenge of government policies (monetary policies), and the capital market (Pham & Pham, 2020).

The inability to access long-term finance can force manufacturing firms to use short-term debt to finance long-term projects, which will create mismatches of assets and liabilities and depletes working capital. Debt financing occurs when a firm raises money for working capital or capital expenditures by selling debt instruments to individuals and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise that the principal and interest on the debt will be repaid. Stepping aside from perfect market assumptions, it becomes



obvious that different taxation regimes, access to capital, transaction costs, different levels of agency costs, and other factors do not make financing choices irrelevant in the firm's approach to this goal. Therefore, the problem of debt financing choices has been a central question in the corporate finance literature. While determinants of the choice between debt and equity are well documented and, to a large extent long established, the effects of various debt sources on firm value and performance still remain somewhat unclear. Surveys of empirical studies revealed that consensus have not been reached on the relationship between debt financing and shareholders wealth creation. Many studies reported a significant negative relationship between debt financing and performance. For instance, Lahcen (2019); Islam, Tunku and Ghazalat (2019); Eze and Akwarandu, (2020); Panova (2020). Despite the negative relationship revealed by the above empirical studies, another strand of studies also found a significant positive relationship between debt financing and performance. For example, Faruk, Eyup and Guven (2019); Ogbonna and Chukwu (2020); Aguguom and Ajayi (2020). On the other hand, Basem, Al-Rdaydeh and Ghazalat (2018); Sanjay (2019); Ahfer (2019); Zelalem (2020) documented no correlation between the debt financing and performance. It can be deduced from the above reviews of empirical literature that results from investigations into the relationship between debt financing and performance are inconclusive and requires more empirical studies, thereby creating a gap in knowledge. In an attempt to filling the lacuna, most of the research on debt financing has been conducted in the advanced countries' using service sector and the studies that were done on this theme in Nigeria focused on financial performance and firm value (to the best knowledge of the researcher), while, this present study concentrated on shareholders' wealth creation; thereby resolving the variable gap. Sectorial gap was closed by considering the manufacturing firms as against the prior studies that focused on service and financial sector. Based on the foregoing, it is therefore, imperative to evaluate the effect of debt financing on shareholders wealth creation of quoted manufacturing firms in Nigeria.

1.1 Objectives of the Study

The main objective of the study is to examine the effect of debt financing on shareholders wealth creation of quoted manufacturing firms in Nigeria.

The specific objectives of this study are to:

- i. Determine the effect of debt ratio on earnings per share of quoted manufacturing firms in Nigeria.
- ii. Ascertain the effect of short term debt ratio on return on equity of quoted manufacturing firms in Nigeria.
- iii. Evaluate the effect of long term debt ratio on cash value added of quoted manufacturing firms in Nigeria.



1.2 Hypotheses

- Ho₁: Debt ratio has no significant effect on earnings per share of quoted manufacturing firms in Nigeria.
- Ho₂: Short term debt ratio has no significant effect on return on equity of quoted manufacturing firms in Nigeria.
- Ho₃: Long term debt ratio has no significant effect on cash value added of quoted manufacturing firms in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual review

2.1.1 Fraud

The Merriam-Webster's Dictionary of Law (1996) as quoted in Abdullahi, Mansor, and Nuhu (2015) defined fraud as any act, expression, omission, or concealment calculated to deceive another to his or her disadvantage, specifically a misrepresentation or concealment with reference to some fact material to a transaction that is made with knowledge of its falsity, and or in reckless disregard of its truth or falsity and worth the intent to deceive another and that is reasonably relied on by the other who is injured thereby. According to the American Institute of Certified Public Accountants (2019), corporate fraud is fraudulent behaviour that causes errors in reporting material financial reports that are the subject of the audit. Fraud can be divided into fraud which occurs due to falsification of financial report reporting and fraud which occurs due to misuse of company assets.

Fraudulent financial reporting may be accomplished by:

1. Manipulation, falsification, or alteration of accounting records or supporting documents from which financial statements are prepared;
2. Misrepresentation in or intentional omission from the financial statements of events, transactions, or other significant information;
3. Intentional misapplication of accounting principles relating to amounts, classification, manner of presentation, or disclosure (AICPA, 2002).

Fraud has been described as a pandemic socio-economic disease that can be found in both public and private sectors of the economy (Udeh & Ugwu, 2018). Gbegi and Adebisi (2014) further described fraud as endemic and gradually becoming a norm in Nigeria, cutting across all sectors of society, especially the public sector. Bank frauds have significant effects on all parties involved as well as the overall economy of the country (Owolabi, 2010). Large-scale fraud has occurred in Nigerian banks,



which has occasionally-among other things-led to bank difficulty. A banking system that is in trouble cannot efficiently perform its intermediation function because there will be a credit crunch, which will stop new lending. The bank may have a low capital adequacy ratio or a lack of liquidity.

2.1.2 Opportunity and Financial Statement Fraud

The second factor that causes financial statement fraud is the opportunity (Cressey, 1953). An opportunity has always been associated with internal control and is a mandatory element to perpetrate and conceal fraud (Schuchter & Levi, 2016). Companies with weak internal controls will have many loopholes that can present an opportunity for management to manipulate transactions or accounts. Beasley, Carcello, Hermanson, and Lapides (2000) argue “that strong internal corporate governance mechanisms serve as a Debt Financing

Debt means the amount of money which needs to be repaid and financing means providing funds to be used in business activities. An important feature in debt financing is the fact that you are not losing ownership in the company. Debt financing is a time-bound activity where the borrower needs to repay the loan along with interest at the end of the agreed period. The payments could be made monthly, half yearly, or towards the end of the loan tenure (Kriss, 2022). Debt Financing means when a firm raises money for working capital or capital expenditures by selling bonds, bills, or notes to individual and/or institutional investors (Aggreh, Nworie & Abiahu, 2022). In return for lending the money, the individuals or institutions become creditors and receive a promise to repay principal and interest on the debt (Majaski, 2020). Debt financing occurs when a firm raises money for working capital or capital expenditures by selling debt instruments to individuals and/or institutional investors. In return for lending the money, the individuals or institutions become creditors and receive a promise that the principal and interest on the debt will be repaid. The other way to raise capital in the debt markets is to issue shares of stock in a public offering; this is called equity financing (Coleman, 2020). When a company needs money through financing, it can take three routes to obtain financing: equity, debt, or some hybrid of the two. Equity represents an ownership stake in the company. It gives the shareholder a claim on future earnings, but it does not need to be paid back. If the company goes bankrupt, equity holders are the last in line to receive money. The other route is debt financing where a company raises capital by issuing debt (Veenam, 2020).

Debt financing occurs when a firm sells fixed income products, such as bonds, bills, or notes, to investors to obtain the capital needed to grow and expand its operations. When a company issues a bond, the investors that purchase the bond are lenders who are either retail or institutional investors



that provide the company with debt financing. The amount of the investment loan also known as principal must be paid back at some agreed date in the future. If the company goes bankrupt, lenders have a higher claim on any liquidated assets than shareholders (Miller, 2019).

2.1.2 Debt Ratio

Debt Ratio is a financial ratio that indicates the percentage of a company's assets that are provided via debt. It is the ratio of total debt and total assets (the sum of current assets, fixed assets, and other assets such as goodwill (Hayes, 2022)). Debt ratio is a solvency ratio that measures a firm's total liabilities as a percentage of its total assets. The debt ratio shows a company's ability to pay off its liabilities with its assets. In other words, this shows how many assets the company must sell in order to pay off all of its liabilities. This ratio measures the financial leverage of a company. Companies with higher levels of liabilities compared with assets are considered highly leveraged and more risky for lenders. This helps investors and creditors analysis the overall debt burden on the company as well as the firm's ability to pay off the debt in future, uncertain economic times (Wilkinson, 2020). The debt ratio is shown in decimal format because it calculates total liabilities as a percentage of total assets. As with many solvency ratios, a lower ratios is more favorable than a higher ratio. A company's debt ratio offers a view at how the company is financed. This provides a clear indication of the amount of leverage held by a business. The company could be financed by primarily debt, primarily equity, or an equal combination of both. The debt ratio takes into account both short-term and long-term assets by applying both in the calculation of the total assets when compared with total debt owed by the company (Boyle, 2022). The debt ratio of a business is used in order to determine how much risk that company has acquired. A low level of risk is preferable, and is linked to a more independent business that does not need to rely heavily on borrowed funds, and is therefore more financially stable. These businesses will have a low debt ratio (below .5 or 50%), indicating that most of their assets are fully owned (financed through the firm's own equity, not debt). A high risk level, with a high debt ratio, means that the business has taken on a large amount of risk. If a company has a high debt ratio (above .5 or 50%) then it is often considered to be highly leveraged (which means that most of its assets are financed through debt, not equity). In some instances, a high debt ratio indicates that a business could be in danger if their creditors were to suddenly insist on the repayment of their loans. This is one reason why a lower debt ratio is usually preferable (Skylark, 2022). A ratio of 1 means that total liabilities equals total assets. In other words, the company would have to sell off all of its assets in order to pay off its liabilities. Obviously, this is a highly leverage firm. Once its assets are sold off, the business can no longer operate (Tracy, 2020).



$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

2.1.3 Short Term Debt Ratio

Short-term debt, also called current liabilities, is a firm's financial obligations that are expected to be paid off within a year (Fernando, 2022). Short-term debt describes liabilities that are due to be paid within one year. A short-term debt ratio indicates the likelihood that a company will be able to deliver payments on its outstanding short-term liabilities (Aggreh, Nworie & Abiahu, 2022). Short-term debts include liabilities with a repayment time frame of less than one year from initial issue (such as commercial paper) rather than the sum of all debt payments (final and interim) due within a coming 12-month period (Ahern, 2020). Short-term debt, also called current liabilities, is a firm's financial obligations that are expected to be paid off within a year. It is listed under the current liabilities portion of the total liabilities section of a company's statement of financial position (Mansa, 2022). If the current liabilities are higher than the cash and cash equivalents, this tells us that the company might be in poor financial health, and is in danger of not being able to meet its obligations and pay off all of its debts (Rathburn, 2022).

$$\text{Short Term Debt Ratio} = \frac{\text{Short Term Debt}}{\text{Total Assets}}$$

2.1.4 Long Term Debt Ratio

Long term debt ratio is the financial leverage ratios measuring the proportion of long-term debt used to finance the assets of a business. This ratio represents the position of the financial leverage the company's take. With this ratio, analysts can estimate the capability of the corporation to meet its long-term outstanding loans (Smith, 2020). Long term debt ratio is a coverage or solvency ratio used to calculate the amount of a company's leverage. The ratio result shows the percentage of a company's assets it would have to liquidate to repay its long-term debt. It is the ratio that represents the financial position of the company and the company's ability to meet all its financial requirements. It shows the percentage of a company's assets that are financed with loans and other financial obligations that last over a year. As this ratio is calculated yearly, decrease in the ratio would denote that the company is fairing well, and is less dependent on debts for their business needs (Harvey, 2020).

Long-term debt is debt that is due in more than one year. Some of the examples of long-term debt include bonds and government treasuries. On the statement of financial position, these kinds of debts are usually written collectively as "long-term debt" under non-current liabilities (Campbell, 2020). A company can build assets by raising debt or equity capital. The ratio of long-term debt to total assets



provides a sense of what percentage of the total assets is financed via long-term debt. A higher percentage ratio means that the company is more leveraged and owns less of the assets on balance sheet. In other words, it would need to sell more assets to eliminate its debt in the event of a bankruptcy. The company would also have to generate strong revenue and cash flow for a long period in the future to be able to repay the debt. This ratio provides a sense of financial stability and overall riskiness of a company. Investors are wary of a high ratio, as it signifies management has less free cash flow and less ability to finance new operations (Steven, 2020). Management typically uses this financial metric to determine the amount of debt the company can sustain and manage the overall capital structure of the firm (Nicholas, 2020)

$$\text{Long Term Debt Ratio} = \frac{\text{Long Term Debt}}{\text{Total Assets}}$$

2.1.5 Shareholders Wealth Creation

Wealth is said to be generated by any financial decision if the present value of future cash flows relevant to that decision is greater than the costs incurred to undertake that activity. Increase in wealth is equal to the present value of all future cash flows less the cost/investment. In essence, it is the net present value (NPV) of a financial decision (Borad, 2019). Wealth creation is defined as the changes in the wealth of shareholders on a periodic (annual) basis (Ward, 2019). A company creates value for the shareholders when the shareholder return exceeds the required return to equity. In other words, a company creates value in one year when it outperforms expectations. A wealth of a shareholder maximizes when the net worth of a company maximizes. A shareholder holds share in the company/business and his wealth will improve if the share price in the market increases which in turn is a function of net worth (Amadeo, 2020).

Shareholder wealth is defined as the present value of the expected future returns to the owners (that is, shareholders) of the firm. These returns can take the form of periodic dividend payments and/or proceeds from the sale of the stock (Will & Adam, 2019). The shareholders wealth maximization objective is to maintain highest market value of shares. It is generally in accord with the interests of the various groups such as owners, employees, creditors and society, and thus, it may be consistent with the management objective of survival (York, 2019). The survival and the future growth of the firm always depend on how it satisfies its customers through the quality of goods and services. Further, the firms in practice set their vision or mission concerned with technology, leadership, market share, image, welfare of employees, and so on. Hence, the firm designs its strategy around such basic objectives in the areas of technology, production, purchase, marketing, finance, amongst others. For



this, the firm takes its decisions, which are consistent with its strategies. Therefore, the wealth maximisation objective is the second level criterion, which ensures to meet the minimum standard of the economic performance. As a matter of fact, the management is not only the agent of owners, but also trustee for the owners. Hence, it is the responsibility of the management to harmonise the interests of owners with that of creditors, employees, government, society, etc (Scott, 2021).

2.1.6 Earnings per Share

Earnings per share (EPS) is the portion of a company's profit allocated to each outstanding share of common stock and serves as a proxy of the company's financial health. EPS is the portion of a company's net income that would be allocated to each outstanding share if all the profits were paid out to its shareholders (David, 2022). Earnings per share (EPS) is an important financial measure, which indicates the profitability of a company. It is calculated by dividing the company's net income with its total number of outstanding shares. It is a tool that market participants use frequently to gauge the profitability of a company before buying its shares (Folger, 2020). EPS is the portion of a company's profit that is allocated to every individual share of the stock. It is a term that is of much importance to investors and people who trade in the stock market. The higher the earnings per share of a company, the better is its profitability (Coleman, 2020). Earnings per share (EPS) is a figure describing a public company's profit per outstanding share of stock, calculated on a quarterly or annual basis. EPS is arrived at by taking a company's quarterly or annual net income and dividing by the number of its shares of stock outstanding.

EPS is a basic yardstick of a company's profitability and is used to tell investors whether the company is a safe bet (Motley, 2020). Earnings per share is one of the most important variables for determining a company's share prices. A high EPS indicates that the company is more profitable and has more profits to distribute to shareholders. EPS is used typically by analysts and traders to gauge the financial strength of a company, and is often considered to be one of the most important variables in determining a stock's value (Kazel, 2022).

Earnings per share (EPS) ratio is computed by:

$$\text{EPS} = \frac{\text{Net Income after Tax}}{\text{Number of Outstanding Shares}}$$

2.1.7 Return on Equity

Return on equity (ROE) is a ratio that provides investors with insight into how efficiently a company (or more specifically, its management team) is handling the money that shareholders have contributed to it. In other words, return on equity measures the profitability of a corporation in relation to



stockholders' equity (Furhmann, 2022). The higher the ROE, the more efficient a company's management is at generating income and growth from its equity financing. ROE provides a simple metric for evaluating investment returns. ROE may also provide insight into how the company management is using financing from equity to grow the business (Schmidt, 2023). ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The higher the ROE, the better a company is at converting its equity financing into profits. Return on equity provides an insight into a business's profitability for owners and investors. It help investors understand whether they are getting a good return on their money, while it is also a great way to evaluate how efficiently a company can utilise the firm's equity (James, 2022). A sustainable and increasing ROE over time can mean a company is good at generating shareholder value because it knows how to reinvest its earnings wisely, so as to increase productivity and profits. In contrast, a declining ROE can mean that management is making poor decisions on reinvesting capital in unproductive assets (Timothy, 2022). Return on Equity (ROE) is the measure of a company's annual return (net income) divided by the value of its total shareholders' equity, expressed as a percentage.

2.1.8 Cash Value Added

Value added is the extra value created over and above the original value of something. It can apply to products, services, companies, management, and other areas of business. In other words, it is an enhancement made by a company/individual to a product or service before offering it for sale to the end customer (Kvilhaug, 2022). Value can be added to a product, service, process, or an entire business. Value can be added by providing better or extra services in the form of after-sales services and better customer support. Value can also be added by improving a product in some way, or by including extras with the product. For example, a retail seller of computers can add value by including software or computer accessories with the basic product – the computer. Companies with strong branding can add value to their products or services simply by using the company's logo to sell a product (Leigh, 2023). Cash value added is a measure of company performance that looks at how much money a company generates through its operations (Bloomenthal, 2022). Cash value added (CVA) is a measure of a company's ability to generate cash flow above and beyond the required return to its investors. A high CVA indicates a company's ability to produce liquid profits from one financial period to another (Richards, 2023).

$CVA = \text{gross cash flow} - \text{depreciation} - \text{capital charge}$



2.2 Theoretical Review

2.2.1 Trade-Off Theory

The trade-off theory of capital structure is the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. The classical version of the hypothesis goes back to Kraus and Litzenberger (1973) who considered a balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt. Often agency costs are also included in the balance. 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 (for example, staff leaving, suppliers demanding disadvantageous payment terms, bondholder/stockholder infighting, and so on). The marginal benefit of further increases in debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing. The trade-off theory predicts that there is an optimal level of capital structure for each firm derived from the tax benefits of debt and the financial distress costs that it creates. The trade-off theory states that firms with safe, tangible assets and plenty of profits to shield should be the ones with the highest leverage levels (Voutsinas & Werner, 2011).

The underpinning theory of this study is trade-off theory. The trade-off theory of capital structure is based on the idea that companies choose between funding through debt or equity by balancing between costs and benefits of each source. The original version of this theory goes back to Kraus and Litzenberger(1973), who took into account the balance between the costs of bankruptcy and the benefits of the tax shield resulting from financing through debt. The trade-off theory states than an enterprise chooses debt and equity mix by balancing the benefits and costs of debt. If the enterprise increases its leverage, the tax benefits of debt increase, as well. At the same time, the costs of debt also rise. The trade-off theory predicts that target debt ratios vary from enterprise to enterprise. Companies with safe, tangible assets and plenty of taxable income ought to have high target ratios. Unprofitable companies with risky, intangible assets ought to rely primarily on equity financing.

2.3 Empirical Review

Abuamsha and Shumali (2022) identified the impact of debt structure on the financial performance of the organizations listed on the Palestinian Exchange (PEX) from 2014-2020. The sample of the study consisted of 41 companies listed in the PEX, excluding the banking sector. The descriptive method was used, in addition to model



measurement, to analyze the panel data using the multiple-regression method. The study concluded that the ROA increases when long-term debts are used for financing the assets in the insurance, investment, and industrial sectors. On the other hand, in the service sector, the ROA is negatively affected by the use of long-term debt, and only the industrial companies' ROA is significantly affected by the total debt. Furthermore, the study found that the ROA of companies in the insurance and investment sectors is positively impacted by short-term debts.

Ibeabuchi-Ani, Obiekwe and Ebe (2022) explored the influence of debt financing on listed manufacturing firms in Nigeria. The study adopted multiple regression models on secondary data sourced from the financial statements and account of five (5) listed manufacturing firms' spanning for 10 years from 2011 to 2020. The study adopted expo fact research design with the help of the SPSS statistical package version 25 to test the hypotheses. Panel least square regression analysis was used to test the actions of the variables, correspondingly to verify the influence of long term debt short term debt, and total debt were used for explanatory variables and return on assets as a proxy for performance of manufacturing firms. Two models were fitted to study their associations on Return on assets. The model indicated a significant linear relationship among the regressand and regressors and R-square was not too low. Also one of the regression coefficients of the regressors (Fs) was insignificant as its p-value (0.361) was greater than 0.05 the significant level. The findings indicated that; there is a positive linear and significant correlation between ROA long term debt, and short term debt. The study furthermore found that total debt has negative and insignificantly linear relationship with ROA.

Nazir, Azam and Khalid (2021) investigated the relationship between the listed firms' debt level and performance on the Pakistan Stock Exchange (PSX) during a five-year period. The study used pooled ordinary least squares regression and fixed and random-effects models to analyse a cross-sectional sample of 30 Pakistani companies operating in the automobile, cement and sugar sectors during 2013–2017. The results indicated that both short and long-term debt have negative and significant impacts on firm performance (ROE) in profitability.

Zelalem (2020) investigated the effect of financial leverage on the financial performance of Ethiopian Commercial Banks for the period of 10 years (2008-2017) for the 5 selected commercial banks. As a measure of financial leverage for the independent variables three variables such as Debt ratio (DR),



Debt Equity ratio (DER) and Interest coverage ratio (ICR) (times interest earned ratio) were used. As a measure of financial performance, two ratios such as return on asset (ROA) and return on equity (ROE) were used. The ex-post facto and longitudinal research design were used. The secondary data were collected from the audited financial reports (profit and loss statement and statement of financial position) of selected commercial banks operated in Ethiopian financial system. Descriptive statistics and Fixed Effect model were used. The result of the study showed that, Debt Ratio (DR) has a negative insignificant effect on Banks' performance measured by Return on Assets (ROA) and Return on Equity (ROE) while Debt Equity Ratio (DER) and Interest Coverage Ratio (ICR) have significant positive Effect on Banks' performance measured by Return on Assets (ROA) and Return on Equity (ROE).

Aguguom and Ajayi (2020) investigated the effects of quality of accounting numbers on shareholders' wealth maximization. The study adopted an *ex post facto* research design, using a population consisted of all the 173 listed companies on the Nigeria Stock Exchange (NSE) as at 31st December 2018 as contained in the NSE Factbook. A stratified and purposive random sampling technique was employed to select 10 companies for a period of 10 years (2010-2019), where companies with incomplete data from their published audited financial statements were not selected. Diagnostics tests of a correlation matrix, normality, and Breusch-Pagan/Cook-Weisberg test for Heteroscedasticity were conducted. Panel data regression was used for the data analysis. The result revealed that the quality of accounting numbers (QAN) had a statistically positive significant effect on economic value added (EVA), while QAN exerted a statistically positive effect on earnings per share. With introduced control, QAN exhibited stronger statistically positive significant effect on EVA, while QAN revealed a strong statistical effect on EPS. Based on the findings, the study recommended that the monitoring functions of the board be intensified to enhance more accurate and transparent accounting numbers in financial reporting, towards building up confidence in investors investment decisions.

Ogbonna and Chukwu (2020) employed panel generalised method moments to examine the controversy facing the dynamic relationship between market value of firms (MvFs) and capital structure. The study made use of twenty four quoted firms from ten sectors in Nigeria between 2010 and 2017 inclusive. However, this study revealed that both equity and debt capital instruments at first difference impacted positively and significantly on the MvFs. That means the study supported the argument that capital structure is relevant to MvFs. The study suggested that firms should have a mix of both debt and equity in their financing structure in order to enhance the market value of the firm. It



should be done in an optimal way so as to achieve the desired objective of increase in market value of the firm.

Panova (2020) investigated the basic theories of capital structure and their applicability to SMEs considering the specificities of their functioning. The study identified the determinants of SMEs own and borrowed funds ratio and the main driving forces of their financial decisions. The study identified the reasons why SMEs have difficulties in attracting borrowed funds and problems with collateral provision. The study presented the dynamics of the capital structure and the composition of the borrowed funds in Russian SMEs. The research was based on the panel data of Russian manufacturing SMEs in the period of years 2010–2018. The panel data were unbalanced to avoid a survival bias. The financial ratio selected as variables was calculated using consolidated financial statements published by Russian Federal State Statistics Service. The statistical relations between the indicators were performed by a fixed effects regression with a dummy. The results of the research identified that current liquidity and asset structure have the statistically significant negative impact on the financial leverage in Russian manufacturing SMEs.

Eze and Akwarandu (2020) evaluated the impact of tax shield on capital structure of quoted non-financial firms in Nigeria. Five hypotheses were formulated following the dependent variables of Long Term Debt Ratio and Short Term Debt Ratio. The independent variables employed for this study are: Operating Income, Non-Debt Tax Shield, Debt Tax Shield, Trade Credit Ratio, Firm Size and Firm Leverage. The study was based on ex-post facto research design and made use of panel data set collected from thirty five (35) non-financial companies over a five year period of 2015 and 2019 financial year. The study analyzed the data set using panel least square regression analysis. The study finding support the trade-off theory developed by Modigliani and Miller's who explained that, "the relevance of debt with the existence of taxes is beneficial for the formation of a firm's capital structure and serves to shield earnings from taxes. The result showed that both variables of debt tax shield and firm leverage significantly impact on capital structure of non-financial firms in Nigeria during the period under investigation. The study recommended among others that concerted efforts should be made by financial regulatory bodies to stabilize the tax structure/system in Nigeria. This is based on the fact that reduction of tax frictions not only increases capital buffers for all firms; it also decreases the risk taking levels of firm managers.

Islam, Tunku and Ghazalat (2019) investigated the effect of corporate financing decisions on firm value. The research was carried out using the panel data procedure for a sample of 256 firms from 9



sectors listed on Bursa Malaysia during the period 2000-2015. The study used Tobin's Q representing firm value for the dependent variable. The corporate financing was measured by leverage (short-term debt to total assets, long-term debt to total assets, total debt to total assets and total debt to total equity) and debt maturity (long-term debt to total debt). Short-term debt to total assets and long-term debt to total assets has a positive significant relationship to firm value. This finding is consistent with the view that leverage and dividends mitigate agency costs of free cash flow problems, therefore, increasing firm value. Total debt to total assets affects firm value negatively. This proves that although there are benefits of debts, there is also the cost of debts. The cost of debt financing arises from the increase in the probability of bankruptcy. Firm value does not depend on the length of debt maturity.

Rahman, Islam and Uddin (2019) explored the impact of capital structure on the profitability of publicly traded manufacturing firms in Bangladesh. This study applied the fixed effect regression to find out the correlation among independent variables (debt ratio, equity ratio and debt to equity ratio) and dependent variables (return on asset, return on equity and earnings per share). A sample of 50 observations of selected 10 manufacturing companies listed in Dhaka Stock Exchange has been analyzed over the period of 2013 to 2017. The research revealed that the debt ratio and equity ratio have a significant positive impact but debt to equity ratio has a significant negative impact on ROA. The study also revealed that, equity ratio has a significant positive impact but debt to equity ratio has a significant negative impact on ROE. Finally, debt and equity ratio has a significant negative impact on EPS.

Bannerman and Fu (2019) examined the effects of long term debt on firm growth in China from 2013-2018. Statistical package of social studies version 22 was used to analyze the data and by correlating as well as regression model assisted the study. It was discovered that, long term debt negatively affects firm growth when sizes and maturity remain major considerate option to access long term finance, though not statistically significant as perceived.

Umobong and Diette-Abayeh (2019) examined capital structure composition and financial performance of food and beverage firms using secondary data obtained from Nigeria stock exchange from 2012-2017. Leverage composition; short term debt to total asset, long term debt to total asset and debt-equity ratio were regressed against market performance proxies earnings yield, price/earnings ratio and Tobin Q. Variables were subjected to Hausman test for selection of appropriate model. Findings indicated significant positive relationship between short term debt over total asset ratio and Tobin Q, long term debt to total asset relate significantly positively with Tobin Q



and earnings yield. Also, there is significant positive relationship between Debt Equity ratio and Earnings yield. The study also found significant negative relationships between Short term debt and Earnings yield, Long term debt and P/E ratio, and between Debt Equity ratio and Tobin Q. Additionally, the study found insignificant negative relationship between Short term debt and Price earnings ratio and between Debt equity ratio and P/E ratio. Also, a shift in capital structure composition from STD/TA to LTD/TA has a positive effect on TBQ which is statistically significant and a Shift from LTD/TA to STD/TA still maintains an equally positive effect on TBQ. However, it is more rewarding for the firm to shift to more long-term debt in its capital structure as it has higher effect on TBQ. A shift from TD/TA to LTD/TA has a significant positive effect on Earnings Yield and a shift from LTD/TA to STD/TA has a positive insignificant effect on EY.

Ahfer (2019) investigated the effect of financial leverage on wealth of shareholders of organizations in Sri Lanka. The financial data from 60 listed companies in the Colombo Stock Exchange covering eight different sectors for a period of ten years from 2012 to 2017 were gathered and analyzed. The results did not show any clear relationship between financial leverage and shareholders' wealth among the selected sample companies. Besides, as the size of the sampling is small any findings could not be conclusively established as dependable. The findings provided evidence, which are contrary to strength of most western theories. Hence, Sri Lankan firms should bear this in mind when deciding the optimal capital mix.

Sanjay (2019) examined the empirical effects of corporate capital structure (financial leverage) on cost of capital and the market value of selected firms of Indian Cement Industry for the period from 2011 to 2018. The research evidence of the study indicated that no impact of financial leverage on cost of capital was found in the cement industry in India, i.e. no significant linear relationship between the financial leverage and cost of capital exists, and there is no correlation between the financial leverage and total valuation within the cement industry. In other words, financial leverage does not affect the total valuation of a firm in the cement industry in India.

Agung and Andi (2019) analyzed the influence of Return on Asset (ROA), Debt to Equity Ratio (DER) Earnings per Share and Company size on share return of real estate and property industry in Indonesia from 2009-2016. The number of population for the research was 50 companies and the number of sample that examined after passed the purposive sampling phase was 35 companies. Multiple linear regression was used. The result of the research showed that Debt to Equity Ratio (DER) and Earnings per Share (EPS) variables have a positive and significant influence on share



return. On other hand, Return on Asset (ROA) and Company size has a negative and insignificant influence on share return on property and real estate industry.

Castro, Tascón, Borja and Area (2019) adopted a dynamic standpoint to contribute to the debate on how and why firms choose their capital structure. The study examined the different behavior of the traditionally found explanatory variables (such as operating, investing and financing cash flows) across the stages. Taking a wide sample of public companies from UK, Germany, France and Spain, it was found that the capital structure explanatory factors evolve across the life cycle stages, changing or rebalancing the prevalence of the static models in play, trade-off, pecking order, and market timing.

Lahcen (2019) used a panel dataset covering 550 non-listed manufacturing firms in Morocco over the period 2008–2017 and investigated both long-term and short-term measures of leverage with the objective of understanding the factors that shape “debt-equity choice” as well as “debt maturity structure”. The analysis revealed the existence of a negative relationship between asset tangibility and both aggregate leverage and short-term debt ratio. However, no clear cut relationship between asset tangibility and long-term debt is uncovered. Small firms tend to increase their debt instead of opening their capital to outside investors and larger firms seem to rely much more on their retained earnings for their long-term financial needs. For short-term debt, size does not appear to matter. The impact of growth is positive on short-term leverage and irrelevant for long-term leverage. Finally, profitability exerted a positive effect on long-term leverage and a negative one on short-term leverage.

Venugopal, Sharma and Ravindar (2018) analysed the capital structure impact on shareholder value by considering created shareholder value (CSV) as a shareholder value measure in 77 Indian pharmaceutical firms listed in BSE over a period of 9 years from 2007 to 2015. Using the balanced panel data and regression models, the study found that determinants such as debt–equity ratio, long-term debt ratio and short-term debt ratios have positive correlation with CSV and negatively related to total debt ratio in the absence of tax.

Nenu, Vintila and Gherghina (2018) examined the impact of capital structure on risk and firm performance of Romanian market. The study applied multivariate fixed-effects regressions, as well as dynamic panel-data estimations (two-step system generalized method of moments, GMM) on a panel comprising the companies listed on the Bucharest Stock Exchange. The analyzed period, 2000-2016, covers a cycle with significant changes in the Romanian economy. Results showed that leverage is positively correlated with the size of the company and the share price volatility.



Basem, Al-Rdaydeh and Ghazalat (2018) examined the influence of financial leverage on the growth of Jordanian firms. A sample of 91 firms from Jordan was analyzed via panel data regression method for the period between 2006 and 2015. As a result, the findings portrayed the irrelevance between financial leverage and growth of assets, but a significantly positive correlation with the growth of sales and employment. The study revealed that growth of sales and employment had been significantly and positively correlated with firm size. The study displayed the ability to gain external financing to ascertain successful progress.

Ateyah (2018) examined the impact of capital structure on earnings per share of the market capitalization of companies listed in Amman Stock Exchange, Jordan during the period 1978-2016. The study used E-views program to analyze the data, as the analysis showed that there is statistically significant positive relationship between the leverage, dividends and the market capitalization. As well as, a positive relationship between the net income after taxes and the market capitalization of listed companies in Amman Stock Exchange. The study found that there is no statistically significant between earnings per share and market capitalization, and this means that investors are interested in dividends and net income after taxes in the demand on shares, but they do not care about earnings per share when they demand shares.

Ajibola, Wisdom and Qudus (2018) examined the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria over the period 2005-2014. Panel methodology was applied to analyse the impact of capital structure on financial performance of quoted manufacturing firms in Nigeria. The findings of the panel ordinary least square showed that a positive statistically significant relationship exist between long term debt ratio(LTD) (0.0001), total debt ratio (TD) (0.0065) and return on equity (ROE) while a positive statistically insignificant relationship between ROE (return on equity) and STD (Short term debt ratio). There was also a negative insignificant relationship between all the proxies of capital structure (LTD, STD and TD) and ROA which makes ROE a better measure of performance. The study concluded that capital structure has a positive impact on financial performance and companies should employ more of long term debts. Therefore it recommended that every firm should make good capital structures decision to earn profit and carry on their business successfully.

Ahmed, Awais and Kashif (2018) investigated the optimal level of capital structure that firms can adopt to improve their financial performance given the industry dynamics and economic



circumstances of Pakistan. Using Hausman's specification test, annual data for the period 2005 – 2014 of Karachi Stock Exchange (KSE) 100 index listed securities was collected to analyze the impact of financial leverage on the firms' performance. Return on assets, return on equity, and Tobin's Q were the proxies of financial performance analyzed against financial leverage for the KSE 100 index listed firms. The finding of the study indicated that capital structure, leverage, interest cover and sales growth as most significant variables impacting firms' profitability.

Nissim and Penman (2018) presented a financial statement analysis that distinguished leverage that arises in financing activities from leverage that arises in operations in Colombia from 2013-2017. The analysis yielded two leveraging equations, one for borrowing to finance operations and one for borrowing in the course of operations. These leveraging equations described how the two types of leverage affected book rates of return on equity. An empirical analysis showed that the financial statement analysis explained cross-sectional differences in current and future rates of return as well as price-to-book ratios, which were based on expected rates of return on equity. The study therefore concluded that statement of financial position line items for operating liabilities were priced differently than those dealing with financing liabilities.

Faruk, Eyup and Guven (2018) analyzed the firm-specific factors affecting the dividend payout decisions of the companies whose shares were traded on the Borsa Istanbul stock exchange Turkey. To this end, the dynamic panel regression was applied to 853 observations of yearly average of 106 companies listed on the Borsa Istanbul between 2009 and 2015. According to results from the Arellano-Bover/Blunder-Bond two-step system generalized method of moments, a statistically significant positive effect on dividend payout was found in the relationship between the dividend payout of the previous year, the company's return on equity and the market value/book value ratio, liquidity and the company's size. The demonstration of a positive relationship between dividend payout and return on equity supports the free cash flow hypothesis and the positive relationship with the previous year's dividend payout ratio supports the dividend smoothing hypothesis for Turkey.

3. MATERIAL AND METHOD

The research design employed in this study is the *ex-post facto* research design. An *Ex-post Facto* research determines the cause-effect relationship among variables. *Ex-post Facto* research design was employed since this study made use of historical secondary data (Kothari & Garg 2014). The population of this study comprised of all the fifty-nine (59) listed manufacturing companies in Nigeria as at 31st December, 2021. Purposive sampling technique was adopted in the determination of the

sample size based of the availability and up-to-date annual financial statements; listed manufacturing companies that have consistently submitted their annual reports to the Nigerian Exchange (NGX) Group from 2012 to 2021. In view of this, twenty one (21) listed manufacturing companies served as the sample size of this study (refer to appendix A). Essentially, this study utilised secondary data that were extracted from the annual reports and statements of account of the sample listed manufacturing companies.

Table 1: Measurement of Research Variables

| Variables | Definition | Measurement |
|------------------------------|-----------------------|---|
| Independent Variables | | |
| DR | Debt Ratio | Total Debt/Total Assets |
| STDR | Short Term Debt Ratio | Short Term Debt/Total Assets |
| LTDR | Long Term Debt Ratio | Long Term Debt/Total Assets |
| Dependent Variable | | |
| EPS | Earnings per Share | $\frac{\text{Net Income after Tax}}{\text{Number of Outstanding Shares}}$ |
| ROE | Return on Equity | $\frac{\text{Net Income}}{\text{Shareholders' Equity}}$ |
| CVA | Cash Value Added | Gross Cash Flow - Depreciation - Capital Charge |

Descriptive statistics was used to summarise the mean, median, standard deviation, skweness, kurtosis, maximum and minimum of the study variables. Inferential statistics of the hypotheses will be carried out with the aid of E-Views 10.0 statistical software, using: Coefficient of Correlation: which is a good measure of relationship between two variables, tells us about the strength of relationship and the direction of relationship as well. Panel Least Square (PLS) regression analysis: was used to predict the value of the dependent variable based on the value of the independent variables

3.1 Model Specification

This study will adapt the model of Okudo, Mbonu and Amahalu (2022):

$$TQ = \beta_0 + \beta_1 DER + \beta_2 LTDR + \beta_3 STDR + \xi$$

Where:

TQ = Tobin’s Q

DER = Debt-to-Equity Ratio



ξ : Error Term

Consequent upon the adapted model, the following model was developed:

$$EPS_{it} = \beta_0 + \beta_1 DR_{it} + \mu_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 STDR_{it} + \mu_{it}$$

$$CVA_{it} = \beta_0 + \beta_1 LTDR_{it} + \mu_{it}$$

Where:

β_0 = Constant term (intercept)

$\beta_1, \beta_2, \beta_3$ = Regression co-efficients

β_1 = slope (coefficient or parameter estimate) of DR

β_2 = slope (coefficient or parameter estimate) of STDR

β_3 = slope (coefficient or parameter estimate) of LTDR

μ_{it} = idiosyncratic error (unobservable factors) that vary over time and affect shareholders' wealth creation

i = individual firms (1,2,3,... 21)

t = time periods (1,2,3,... 10)

EPS_{it} = Earnings per Share of firm i in period t

DR_{it} = Debt Ratio of firm i in period t

$STDR_{it}$ = Short Term Debt Ratio of firm i in period t

$LTDR_{it}$ = Long Term Debt Ratio of firm i in period t

4. RESULT AND DISCUSSIONS

4.1 Descriptive Statistics

Table 2 Descriptive Statistics

| | EPS | ROE | CVA | DR | STDR | LTDR |
|-------------|----------|----------|----------|----------|-----------|----------|
| Mean | 0.399000 | 1.529000 | 0.238000 | 0.312000 | 1.120000 | 0.363000 |
| Median | 0.335000 | 1.630000 | 0.220000 | 0.225000 | 1.205000 | 0.335000 |
| Maximum | 0.860000 | 2.800000 | 0.330000 | 0.650000 | 1.670000 | 0.660000 |
| Minimum | 0.130000 | 0.600000 | 0.060000 | 0.090000 | 0.470000 | 0.210000 |
| Std. Dev. | 0.243194 | 0.713745 | 0.063736 | 0.184800 | 0.369324 | 0.138568 |
| Skewness | 0.938302 | 0.255952 | 0.462066 | 0.597709 | -0.425704 | 1.096681 |
| Kurtosis | 2.672574 | 1.997533 | 1.728476 | 2.011638 | 2.261022 | 3.248481 |
| Jarque-Bera | 1.512021 | 0.527911 | 1.029496 | 1.002450 | 0.529577 | 2.030242 |
| Probability | 0.469536 | 0.768008 | 0.597651 | 0.605788 | 0.767368 | 0.362359 |
| Sum | 3.990000 | 15.29000 | 1.380000 | 3.120000 | 11.20000 | 3.630000 |



| | | | | | | |
|--------------|----------|----------|----------|----------|----------|----------|
| Sum Sq. Dev. | 0.532290 | 4.584890 | 0.036560 | 0.307360 | 1.227600 | 0.172810 |
| Observations | 210 | 210 | 210 | 210 | 210 | 210 |

Source: E-Views 10 Descriptive Output, 2023

Table 2 presents the descriptive statistics for the different variables of the study with an observation of 210 (21 firms x 10 years). The observed average EPS is N39.90, with a minimum EPS of N13 and a maximum of N86. Averagely, the ROE stood at N152.90, a minimum of N60 and maximum ROE of N280. The average cash value added across the sampled firms is N23.80 with a minimum CVA of N6 and a maximum of N33. The total debt ratio averagely, remained at 31.20%, a maximum DR of 65% and a minimum DR of 9%. On the average, STDR stood at 112%, a maximum STDR of 167% and a minimum of 47%. LTDR has an average mean of 36.30%, with a minimum LTDR of 21% and maximum of 66%.

4.1.1 Correlational Test

Table 3: Pearson Correlation Matrix

| | EPS | ROE | CVA | DR | STDR | LTDR |
|------|---------|---------|---------|---------|--------|---------|
| EPS | 1.0000 | 0.1072 | -0.0976 | 0.0401 | 0.6367 | 0.0443 |
| ROE | 0.1072 | 1.0000 | 0.1550 | -0.0176 | 0.0988 | -0.1446 |
| CVA | -0.0976 | 0.1550 | 1.0000 | 0.7569 | 0.3422 | 0.4524 |
| DR | 0.0401 | -0.0176 | 0.7569 | 1.0000 | 0.5986 | 0.6354 |
| STDR | 0.6367 | 0.0988 | 0.3422 | 0.5986 | 1.0000 | 0.0636 |
| LTDR | 0.0443 | -0.1446 | 0.4524 | 0.6354 | 0.0636 | 1.0000 |

Source: E-Views 10 Correlation Output, 2023

From the findings on the correlation analysis in table 4.2, the study revealed that there is a positive relationship between DR, STDR, LTDR and EPS by correlation factors of 0.0401, 0.6367, 0.0443. in a similar vein, ROE negatively correlates with DR (-0.0176) and LTDR (-0.1446), but positively correlates with STDR (0.0988), while, CVA has a positive relationship with DR (0.7569), STDR (0.3422) and LTDR (0.4524).

4.2 Test of Hypotheses

4.2.1 Hypothesis One

H₀₁: Debt ratio has no significant effect on earnings per share of quoted manufacturing firms in Nigeria.

Table 4 Panel Least Square Regression Analysis testing the effect of DR on EPS

Dependent Variable: EPS

Method: Panel Least Squares

Date: 02/16/23 Time: 13:35

Sample: 2012 2021

Periods included: 10

Cross-sections included: 21

Total panel (balanced) observations: 210

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.388772 | 0.032339 | 12.02191 | 0.0000 |
| DR | 0.427130 | 0.052776 | 8.093315 | 0.0000 |
| R-squared | 0.170656 | Mean dependent var | | 0.399171 |
| Adjusted R-squared | 0.164148 | S.D. dependent var | | 0.230549 |
| S.E. of regression | 0.231027 | Akaike info criterion | | -0.083087 |
| Sum squared resid | 11.10167 | Schwarz criterion | | -0.051210 |
| Log likelihood | 10.72417 | Hannan-Quinn criter. | | -0.070201 |
| F-statistic | 39.36607 | Durbin-Watson stat | | 1.907122 |
| Prob(F-statistic) | 0.000000 | | | |

Source: E-Views 9.0 Regression Output, 2023

Table 4 shows that, given a unit increase in debt ratio, EPS will increase by 42.71%.

It further reveals that, the t-value for debt ratio is 8.093315 with a probability value of 0.0000, suggesting that debt ratio exerts positive influence on EPS at 5% significant level. The R-squared of 0.170656 suggests that variation in EPS is explained by DR fluctuation by 17% while the remaining 83% is explained by other factors outside the model. The result shows that there is a significant positive relationship between EPS and DR.



4.2.1.1 Decision: The value of t-calculated of 8.093315 with the associated probability of 0.0000 is less than the significance level of 0.05; the null hypothesis is therefore rejected at 5% level of significance implying that debt ratio has a significant and positive effect on earnings per share of quoted manufacturing firms in Nigeria at 5% level of significance. The findings of this study is consistent with the findings of Ibeabuchi-Ani, Obiekwe and Ebe (2022); Castro, Tascón, Borja and Area (2019); Agung and Andi (2019); Faruk, Eyup and Guven (2018) but contrary to the findings of Nazir, Azam and Khalid (2021); Sanjay (2019); Ahfer (2019); Islam, Tunku and Ghazalat (2019)

4.2.2 Hypothesis Two

Ho2: Short term debt ratio has no significant effect on return on equity of quoted manufacturing firms in Nigeria.

Table 5 Panel Least Square Regression Analysis testing the effect of STDR on ROE

Dependent Variable: ROE

Method: Panel Least Squares

Date: 02/16/23 Time: 13:37

Sample: 2012 2021

Periods included: 10

Cross-sections included: 21

Total panel (balanced) observations: 210

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 1.318410 | 0.156222 | 8.439359 | 0.0000 |
| STDR | 0.552358 | 0.067416 | 8.193314 | 0.0000 |
| R-squared | 0.169445 | Mean dependent var | | 1.528350 |
| Adjusted R-squared | 0.155682 | S.D. dependent var | | 0.678417 |
| S.E. of regression | 0.676827 | Akaike info criterion | | 2.066676 |
| Sum squared resid | 95.28367 | Schwarz criterion | | 2.098553 |
| Log likelihood | -215.0009 | Hannan-Quinn criter. | | 2.079562 |
| F-statistic | 41.83229 | Durbin-Watson stat | | 1.808202 |
| Prob(F-statistic) | 0.000000 | | | |

Source: E-Views 9.0 Regression Output, 2023

Table 5 shows that, given a unit increase in short term debt ratio, ROE will increase by 55.24%.



It depicts that, the t-value for short term debt ratio is 8.193314 with a probability value of 0.0000, suggesting that short term debt ratio exerts positive influence on ROE at 5% significant level. The R-squared of 0.169445 suggests that variation in ROE is explained by STDR fluctuation by 16.94% while the remaining 83.06% is explained by other factors outside the model. The result shows that there is a significant and positive relationship between ROE and STDR.

4.2.2.1 Decision: The value of t-calculated of 8.193314 with the associated probability of 0.0000 is less than the significance level of 0.05; the null hypothesis is therefore rejected at 5% level of significance implying that short term debt ratio has a significant and positive effect on return on equity of quoted manufacturing firms in Nigeria at 5% level of significance. The result of this study corroborates the results of Abuamsha and Shumali (2022) ; Umobong and Diette-Abayeh (2019); Rahman, Islam and Uddin (2019); Nissim and Penman (2018)but negates the results of Eze and Akwarandu (2020); Lahcen (2019); Basem, Al-Rdaydeh and Ghazalat (2018)

4.2.3 THypothesis Three

Ho₃: Long term debt ratio has no significant effect on cash value added of quoted manufacturing firms in Nigeria.

Table 6 Panel Least Square Regression Analysis testing the effect of LTDR on CVA

Dependent Variable: CVA

Method: Panel Least Squares

Date: 02/16/23 Time: 13:38

Sample: 2012 2021

Periods included: 10

Cross-sections included: 21

Total panel (balanced) observations: 210

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.064040 | 0.011247 | 5.693825 | 0.0000 |
| LTDR | 0.204575 | 0.029249 | 6.994344 | 0.0000 |
| R-squared | 0.190412 | Mean dependent var | | 0.138031 |
| Adjusted R-squared | 0.186520 | S.D. dependent var | | 0.061378 |
| S.E. of regression | 0.055359 | Akaike info criterion | | -2.940476 |
| Sum squared resid | 0.637441 | Schwarz criterion | | -2.908599 |



| | | | |
|-------------------|----------|----------------------|-----------|
| Log likelihood | 310.7500 | Hannan-Quinn criter. | -2.927589 |
| F-statistic | 48.92085 | Durbin-Watson stat | 1.703435 |
| Prob(F-statistic) | 0.000000 | | |

Source: E-Views 9.0 Regression Output, 2023

Table 6 shows the regression result of CVA and LTDR; that is $CVA = 0.064040 + 0.204575LTDR$. The model shows that, given a unit increase in long term debt ratio, CVA will increase by 20.46%.

Table 6 shows that, the t-value for short term debt ratio is 6.994344 with a probability value of 0.0000, suggesting that long term debt ratio exerts positive influence on CVA at 5% significant level. The R-squared of 0.190412 suggests that variation in CVA is explained by LTDR fluctuation by 19% while the remaining 81% is explained by other factors outside the model. The result shows that there is a significant and positive relationship between CVA and LTDR.

4.2.3.1 Decision: The value of t-calculated of 6.994344 with the associated probability of 0.0000 is less than the significance level of 0.05; the null hypothesis is therefore rejected at 5% level of significance implying that long term debt ratio has a significant and positive effect on return on equity of quoted manufacturing firms in Nigeria at 5% level of significance. The outcome of this study is in line with the works of Ogbonna and Chukwu (2020); Aguguom and Ajayi (2020); Ahmed, Awais and Kashif (2018); Ajibola, Wisdom and Qudus (2018) but opposite to the results of Panova (2020); Zelalem (2020); Bannerman and Fu (2019); Abeywardhana (2017)

CONCLUSION AND RECOMMENDATIONS

This study examined the effect of debt financing on shareholders wealth creation of quoted manufacturing firms in Nigeria for a period of ten (10) years covering from 2012-2021. Data analysis revealed that a significant and positive relationship exists between debt ratio and earnings per share ($\beta_1 = 0.427130$; p-value = 0.0000); a significant and positive relationship between short term debt ratio and return on equity ($\beta_2 = 0.552358$; p-value = 0.0000); a significant and positive relationship between long term debt ratio and cash value added ($\beta_3 = 0.204575$; p-value = 0.0000). In conclusion, this study found that debt financing has a significant effect on shareholders wealth creation at 5% level of significance. Based on study conclusions, the study draws the following policy recommendations:

- i. Based on the positive relationship between debt ratio and earnings per share, this study recommends that, firms should lever on the amount of debt they undertake to finance their



- undertakings, as it enhances firms' bottom line. Also, that firms should operate with a capital structure mix that would minimize the cost of capital and maximize shareholders' wealth.
- ii. In order to sustain the positive relationship between short term debt and return on equity, this study suggests that firms should reduce the usage of short-term debt in financing operations so as to improve and sustain their financial performance.
 - iii. Government and/or lending institutions should design long term financing options suitable for firms such as credit and equity guarantees as well as industry-based credit facilities that will make long term credit not only available but also affordable..

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APPENDIX A: Sample Size

- i. Nigerian Breweries Plc
- ii. Guinness Nigeria Plc
- iii. Flour Mills of Nigeria Plc
- iv. UTC Nigeria Plc
- v. Nestle Nigeria Plc
- vi. PZ Cussons Nigeria Plc
- vii. Unilever Nigeria Plc
- viii. Vitafoam Nigeria Plc
- ix. Morison Industries Plc
- x. Evans Medical Plc
- xi. GlaxoSmithKline Consumer Nigeria Plc
- xii. May & Baker Nigeria plc
- xiii. Neimeth International Pharmaceuticals Plc
- xiv. Nigerian German Chemicals
- xv. Pharma-Deko Plc
- xvi. Berger Paints Nigeria Plc
- xvii. DN Meyer Plc
- xviii. Lafarge Africa Plc
- xix. IPWA Plc
- xx. Cutix plc
- xxi. Livestock Feeds Plc