Corporate Funding and Firm Sustainability in Quoted Manufacturing Companies in Nigeria

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Abstract

The purpose of this study is to examine the relationship between corporate funding and firms' sustainability in quoted manufacturing firms in Nigeria. The study adopts a quasi-experimental design with time series data generated from the financial statements of the quoted manufacturing firms and also Nigerian stock exchange fact books from 2007 to 2018. Augmented Dickey Fuller (ADF), multiple regression analysis, and the standard pair-wise Granger Causality tests were employed in analysing the data. The results reveal a significant relationship between the explained and explanatory variables. Among the explanatory variables, retained earnings to total assets ratio show a highly significant positive effects on the criterion variables while total debt to total assets show consistent significant and negative relationship with each of the explained variables. There is a significant bi-directional causality between return on equity and total equity to total assets, return on assets and retained earnings to total assets and Tobin q ratio and total debt to total assets and total debt to total assets, working capital to total assets and return on assets, return on assets. This means that the variables do support and promote themselves to attain firms' sustainability. It is concluded that retained earnings proved to be a better funding source as it showed a positive influence on the sustainability variables of the firms and that debt capital may not be an appropriate funding source for the operations of the corporate organizations as the results consistently indicate a negative and significant relationship with the dependent variables in each of the stated models. The study recommends corporations to retain much of their profits for re-investment, a policy should be instituted by quoted firms regulatory bodies whereby a reasonable percentage of net profit is retained and reinvested into the business and quoted firms should balance off between the benefits of debt and bankruptcy costs.

Keywords: Corporate funding, Firms Sustainability, Manufacturing Companies, Nigeria

Introduction

Corporate Funding, as explained by Farrell (2016), is a low-cost alternative to debt or equity for financing a given business. Traditionally, corporations raise capital either through equity or debt. But corporate funding is the use of tax incentives, grants and zero/low-interest loans to significantly lower cost of capital. On the other hand, Sustainability in corporate finance is a function of the level of business activities and performance of the business firm. Firm's sustainability is guaranteed when some critical performance criteria are met, that is it is hinged on three key performance areas. This is what some authors refer to as the perception of the firm by three major stakeholders in the affair of the corporation (Mohamad & Saad (2012), and Singhal (2014). These areas include: Proper management of shareholders fund, Assets utilization (organization's ability to leverage existing assets efficiently to generate value) and perception of the firm by the

market/investors. It is only when a company performs well in the proper and efficient management of investors fund, utilization of company's assets and increasing the market value (share price) of the firm that the company can be said to be sustained or going concern. For sustainable investment, the dominant driver of market growth is institutional investors, whereas retail investors encompass a small part of total sustainable investment. Thus, over time, three broad theoretical approaches have emerged in that respect: market-based view (M.B.V.), Owners-based view and Resource-based view (Asset Utilization view). The market-based view focuses on market characteristics and firm's external environment as performance determinants (Cano, Carrillat, & Jaramillo (2004), Geroski & Mason (1987), Grinstein (2008), Porter (1979). Resource-based view (R.B.V.) which relies on ability of the firm to efficiently employ its assets in explaining what drives sustainability of performance up and down (Barney, 1991) while the perception of the firm by the owners completes the triangle (Salim & Yadav (2012). According to Männasoo, (2007), firm sustainability positively depends on efficiency, good stable asset return, low leverage and a large assets base.

Salim and Yadav (2012), Singhal (2014), Avci (2016) as well as Mohamad and Saad (2012) are among the authors that express consensus on the variables to represent the various views of the stakeholders on the firm. According to the above authors, Tobin Q is used as a proxy for the firm's value from an investor's perspective. The higher the q value, q > 1.00 indicate a better investment opportunity (Lang, Stulz & Walkling, 1989), with higher growth potential (Brainard & Tobin 1968; Tobin, 1969). Return on assets (ROA) is used as the proxy to show how efficient the corporation utilizes its input resources and a common measure for firm profitability. Return on equity completes the triangle of views. It represents the perception of the firm from the point of view of the owners. Return on equity (ROE) is a measure of financial performance calculated by dividing net income (net profit after tax) by shareholders' equity. From the foregoing, it becomes highly imperative to empirically ascertain the nature of relationship that exists between corporate funding and firm sustainability in a developing country like Nigeria. This is what this study sets to achieve.

Theoretical Framework

Theory of Corporate Financing

One of the theories that is fundamental to corporate performance is the theory of corporate financing. This theory describes how the activities of a corporate body are financed right from the incorporation through various policy decisions to its liquidation. Corporate finance is the area of finance that deals with financing, investment, dividend and liquidity decisions that business enterprises make and the tools and analysis used to make these decisions. The primary goal of corporate finance is to maximize shareholders value. Although, it is in principle different from managerial finance which studies the financial decisions of all firms, rather than corporations alone.

Corporate finance theory prior to the 1950s was riddled with logical inconsistencies and was almost normatively oriented, the major concern being optimal investment, financing and dividend policies. The past twenty years has seen great theoretical and empirical advances in the field of corporate finance, whereas once, the subject addressed, mainly the financing of corporation - equity, debt and valuation. In total, it also embraces crucial issues of governance, liquidity, risk management, relationships between banks and corporations and the macroeconomic impact of corporations. Tirole (2014) was the first to convey the organizing principles that structure the analysis of today's key management and public policy issues such as reform of corporate governance and auditing; the role of private equity, financial markets and takeovers, the efficient determination of leverage, dividends, liquidity and risk management, and design of managerial incentive packages. He placed corporations in a broader environment and institutions.

Theory of Company Growth

The theory of company growth emphasizes the growth or decline of a company as a result of decisions made by corporate management that impinge on growth variables such as financing decisions, investing decisions, dividend policy and corporate governance. Business grows for number of reasons including to take advantage of a gap in the market, to gain a competitive advantage over others and to win increased market shares. The theory opines that there are two types of business growth which are Internal or organic growth and External growth involving merger and acquisition.

According to the theory, internal growth is typically a slower process and can be defined by asking shareholders to contribute more capital or by ploughing back profits into the business. The main disadvantage of such an approach is that it takes time and rivals may be expanding and gaining competitive advantage. However, the main advantage is that the business is able to a healthy gearing position, because it is not building up external debts (requiring interest repayments), it is placed to maintain solvent growth. In addition, ownership and control of the business is more likely to be retained by existing shareholders.

External growth can be carried out by seeking external finance or by merger and acquisition. This approach tends to rely on bringing external finance into the business in order to find expansion and therefore can lead to a deteriorating gearing position. External growth enables fast expansion of a business, but there are a number of problems. Where two companies come together, the cultures may be quite different and difficult to match up.

The Modigliani and Miller Theory

The Modigliani and Miller theory – also known as the irrelevance capital structure theory – suggested that managers and owners of firms are indifferent about their capital structure, because the value of the firm does not depend on its capital structure but on its total assets. In order for them to come up with these findings, they made certain assumptions which were considered unreasonable by successors doing the same research. They assumed a world without taxes, and perfect markets without any transaction costs. The criticisms of these assumptions forced Modigliani and Miller (1963) to revise their study and they introduced taxes into their model. The results showed that the value of a firm increases with more debt due to the tax shield, and this was also known as the relevance capital structure theory.

The Trade-off theory

This was a modification of Modigliani and Miller's models, and was meant to reflect financial distress and agency costs. Optimal capital structure is gained by balancing the tax-shield benefits provided by leverage against the costs of financial distress and agency – and so the costs and benefits of leverage are traded off against one another. This theory postulates that highly profitable firms have more debt repayment capacity with high taxable income to shield them – so that they will have a higher debt to equity ratio compared to low profit firms. The more profitable firms will use more debt due to lower bankruptcy probability and higher debt ratings, while on the contrary, the Pecking order theory implies that firms with higher profits will use less debt as they have more retained earnings to finance their operations and new projects.

Signaling Theory

With Signaling theory, as a result of the asymmetric information between management and shareholders, signals are vital for financing in a company, and high-quality firms will use more long-term debt and have higher leverage as a signal of future profitability (Ross, 1977). In order to separate the good profitable firms from the low-quality firms or "the lemons", the quality firms will go for high debts and thus attract scrutiny – while the low-quality firms cannot simulate because, with scrutiny, they will be discovered. Signaling theory argues that most financial decisions taken by firm senior management are designed to signal management's confidence to the stock market of the future profitability of the firm, and also its ability to meet future obligations. The action of adding more debt is a sign of higher future cash-flow expectations. The wrong signals may lead to a moral hazard, as managers are unlikely to bear the costs of the risks – but rather the cost of the risk will be borne by the shareholders and the adverse selection where banks/debt holders will have to charge high interest rates and insurance costs to cover potential losses.

Agency theory: studies of this relationship include the works of Jensen and Meckling (1976) and Myers (1977). They suggested that agency costs are related to conflicts of interest between debt-holders and equity-holders. For instance, whenever a venture is financed through debt, the creditors will charge an interest rate that is believed to adequately compensate for the risk involved. Given that the creditor's claim is fixed, their concern is about the extent to which firms invest in excessively risky projects. Ideological differences are the bane of another form of agency problem between shareholders and debt holders. While the former are by nature more risk takers looking for higher returns, the latter are risk averse and want assured returns, even at a lower level. For this reason, shareholders may prefer taking on high-risk projects than debt holders. Whenever the projects succeed, the stockholders will take extra returns, but if there is failure, debt holders and shareholders will bear all the losses (Jensen & Meckling, 1976). For this reason, more indebted firms take lower-risk projects, and hence Myers (1977) stated that the differences between debt holders and shareholder aims could lead to under-investment – which might equally lead to poor corporate performance.

Empirical Review

Modigliani and Miller (1958) suggest that the overall cost of capital of the firms is computed for the market value as the weighted average of the cost of each of the components of capitals used by the firms. Also known as Weighted-Average Cost of Capital (WACC), it is widely used in practice to assess a firm's cost of capital. The Modigliani–Miller theorem Proposition I often called the capital structure irrelevance principle (Modigliani & Miller, 1958) hereafter known as MM model forms the basis for modern thinking on capital structure theory. The basic theorem states that, under a certain market price process (the classical random walk), in the absence of taxes, bankruptcy costs, agency costs, and asymmetric information, and in an efficient market, the firm value and weighted average cost of capital (WACC) is unaffected by the financial structure of the firm. Modigliani and Miller (1963) later modified their original MM model and considered the tax deductibility of interest (tax shields effect) thus demonstrating that the market value of a firm is an increasing function of leverage with the existence of corporate tax that allow the deductibility of interest payments. Later, Brigham and Gapenski (1996) argued that an optimal capital structure can be attained if there exist a tax sheltering benefits, provided an increase in debt level is equal to the bankruptcy costs. They suggest that managers of the firm should be able to identify when the optimal capital structure is attained and try to maintain it at that level. This is the point at which the financing costs and the cost of capital (WACC) are minimized, thereby increasing firm value and performance.

Ndubuisi & Onyema (2019), examined the effects of financial leverage on the profit growth in Nigeria using the total debt to capital ratio, debt to equity ratio, cost of debt, debt to asset ratio and long term debt to capital ratios as proxies for financial leverage for a sample of 80 non-financial firms quoted on the Nigerian Stock Exchange over the period of 2000 to 2015. They analysed the data using

the panel data regression analysis model which includes the pooled regression model, fixed effect model and the random effect model. The choice of the appropriate model between Fixed Effect and Random Effect is made using the Hausman Test. In accordance with the research findings, they conclude that financial leverage has significant effect on the profit growth of firms in Nigeria and also that there exist a significant relationship between the inflation rate and profit growth but the relationship with the interest and exchange rates on financial leverage of quoted companies in Nigeria. The nature of the relationship differs from one another, a positive relationship was reported for the total debt to capital ratio, debt to asset ratio and long term debt to capital ratios and a negative relationship for the debt to equity ratio and the cost of debt. They recommend that every company quoted in Nigeria find the mix of debt to equity capital that best suits them which can become their optimal capital structure to be able to maximize profit at minimal cost.

Ndubuisi & Onyema (2019), also in another study analyzed the relationship between financial leverage and asset growth of 80 nonfinancial firms quoted on the Nigerian Stock Exchange over the period of 2000 to 2015. Financial leverage measures they used include the total debt to capital ratio, debt to equity ratio, cost of debt, debt to asset ratio and long-term debt to capital ratios. The panel regression analysis model which includes the pooled regression model, fixed effect model and the random effect model was used for data analysis with the Hausman Test for appropriate model choice. The result states that there is a significant relationship with all the financial leverage variables except the cost of debt. Asset growth also shows a significant negative relationship with all the control variables such as the interest rate, inflation rate and exchange rates. They recommend that quoted firms should employ financial leverage in such a way that the cost of debt does not outweigh its benefits as proposed by the tradeoff theory and also that financial decisions should be made in consonance with the prevailing inflation, interest and exchange rates by the management of quoted firms in Nigeria.

Yinusa, *et al.* (2019), in their paper examined the impact of capital structure on firm performance in Nigeria as well as test the possibility of non-monotonic relationship between capital structure and firm performance based on the prediction of the agency cost theory of capital structure when firm use debt financing excessively. The study used dynamic panel model on panel data of 115 listed non-financial firms in Nigeria. Specifically, the paper employed the two-step generalized method of moments (GMM) estimation method that recognizes the persistence of the dependent variable by including its lag value as an explanatory variable in the regression model. The major findings indicate statistically significant relationship exist between capital structure and firm performance particularly when debt financing is moderately employed. However, the paper found evidence of non-monotonic relationship between capital structure and firm performance of firms. The findings support the portability of the agency cost theory in the Nigeria context but with caution considering the facts that firms in Nigeria were largely finance through short term debt as against long term debt financing that was assumed in the agency cost theoretical proposition.

Musa, Norhani, Redhwan, (2019), examined the combined impact of corporate governance and the structure of corporate capital in creating organizational value. Corporate governance mechanisms such as foreign ownership, women on board and the size of the board together with the debt capital as a measure of capital structure on market value added (MVA). The combined effect of corporate governance and capital structure presupposes the optimization of both concepts to enhance firm value. Hence, to create external value for corporate firms, the composition of the structure of capital in addition to corporate governance ultimately propel the market value of Nigerian manufacturing firms. Their empirical result revealed the impact of foreign ownership, women on board and board size on the measure of firm value. Capital structure has no significant impact on firm value. The satisfaction of stakeholders is derivable from the external value created by the firm for owners and other relevant stakeholders. The underpinning theories of the study in this paper highlighted the stakeholder's theory and trade-off theory.

Abeywardhana (2016), investigated empirically the impact of capital structure on firm performance. His study examined the impact of capital structure on firm performance of manufacturing sector SMEs in UK for the period of 1998-2008. The authors hypothesize that there is a negative relationship between capital structure and firm performance. To examine the association, the authors run a Pearson correlation and multiple regression analysis. Results of his study reveal that there is a significant negative relationship between leverage and firm performance (ROA, ROCE), strong negative relationship between liquidity and firm performance and highly significant positive relationship between size and the firm performance. He study concluded that firms which perform well do not rely on debt capital and they finance their operations from retained earnings and specially SMEs have less access to external finance and face difficulties in borrowing funds. It is recommended that firm should establish the point at which the weighted average cost of capital is minimized and to maintain the optimal capital structure and thereby maximize the shareholders wealth.

Gambo, Abdul-Rahman, & Ahmad, (2016), investigated the impact of capital structure on firm performance in Nigeria from 2000 to 2010. They considered the impact of some key macroeconomic variables (gross domestic product and inflation) on firm performance. The traditional theory of capital structure was employed to determine the significance of leverage and macroeconomic variables on firm's performance. The study makes a comparative analysis of the selected firms which are classified into highly and lowly geared firms setting a leverage threshold of above 10% as being highly geared. A static panel analysis was used to achieve the objectives of the study. Using fixed effect regression estimation model, a relationship was established between performance (proxied by return on investment) and leverage of the firms over a period of ten years. The results provide strong evidence in support of the traditional theory of capital structure which asserts that leverage is a significant determinant of firms' performance. A significant negative relationship is established between leverage and performance. From their findings, they recommended that firms should use more of equity than debt in financing their business activities, this is because in spite of the fact that the value of a business can be enhanced with debt capital, it

gets to a point that it becomes detrimental. Each firm should establish with the aid of professional financial managers, that particular debt-equity mix that maximizes its value and minimizes its weighted average cost of capital.

Kharabsheh, Mohammad, & Zurigat, (2017), examined the impact of capital structure on financial performance of firms in Nigerian cement industry. The population of their study is 7 companies, a sample of 4 listed companies were selected. Their research design is ex-post factor using two models to analyse the impacts of long term and short-term debts on Return on Assets (ROA) and Return on Equity (ROE). The study uses balanced panel data of 20 observations from the 4 listed companies for the periods ranging from 2010-2014. Descriptive statistics, correlation and regression are used as tools of analysis. Their study reveals that, there is statistically significant effect between long- and short-term liability on Return on Assets (ROA) and Return on Equity (ROE). They however, concluded that the performance of companies in the cement industry is not optimized as a result of their inability to utilized debts in their capital structures. Finally, the paper recommends that, cement companies should encourage the use of long-term debt in their capital structure since it has positive impact on their financial performance.

Ganiyu, Adelopo, Rodionova, & Samuel, (2019), examined the impact of capital structure on firm performance in Nigeria as well as test the possibility of non-monotonic relationship between capital structure and firm performance based on the prediction of the agency cost theory of capital structure when firm use debt financing excessively. They use dynamic panel model on panel data of 115 listed nonfinancial firms in Nigeria, and employ the two-step generalized method of moments (GMM) estimation method that recognizes the persistence of the dependent variable by including its lag value as an explanatory variable in the regression model. Their major findings indicate statistically significant relationship between capital structure and firm performance particularly when debt financing is moderately employed. However, they found evidence of non-monotonic relationship between capital structure and firms. The findings support the portability of the agency cost theory in the Nigeria context but with caution considering the facts that firms in Nigeria were largely finance through short term debt as against long term debt financing that was assumed in the agency cost theoretical proposition.

Oyedokun, Job-Olatuji, & Sanyaolu, (2018), examined the effect of capital structure on the financial performance of firms in Nigerian manufacturing sector. The population of the study is all the listed manufacturing companies listed on the Nigerian Stock Exchange, a sample of 10 listed companies was selected. The research design adopted was ex-post facto using four models to analyse the impact of capital structure on firms' performance. The study used balanced panel data of 100 observations from the 10 listed companies for the periods ranging from 2007 - 2016. Descriptive statistics and regression were used as tools of analysis. Their findings reveal that there are statistically significant and non- significant effects of capital structure on performance variables. Finally, the study recommends that

manufacturing companies should adopt balanced capital structure strategy that will optimise company's performance and corporate value.

Igbinovia, & Ogbeide, (2019), examined the relationship between capital structure and firm value of selected quoted manufacturing companies in Nigeria. In pursuance of this, a sample of fifteen (15) randomly selected firms on the basis of data availability from the Nigerian Stock Exchange covering five sub-sectors were used for the study. Their period for the study is six (6) years covering a period of 2012 to 2017. The data are analyzed using descriptive statistics, correlation analysis and Panel Ordinary Least Square (OLS) regression technique. Based on the data analysed, the study reveals that leverage, tangibility of asset, profitability and age of a firm have significant relationship with firm value. However, the size of a firm has a negative and insignificant relationship with firm value of selected quoted manufacturing firms in Nigeria. Their study recommend that financial managers should institute sound, efficient and coherent capital structure management policies such that will enable them determine the right mix or combination of debt, equity or both that will enhance firms' value in Nigeria. Their study also recommends that firms should expand to a level it does not result to diseconomies of scale and the eventual fall in the value of the firm. Where the size becomes so large, strong and effective controlling and management structures should be put in place, particularly in the quest to gear up the firm's value.

Akintoye, (2008), examined the effect of capital structure on firms' performance by addressing the following questions: Does higher leverage lead to better firm performance? Is the effect of performance on leverage similar across the distribution of different capital structures? Using a sample of 10 Nigerian quoted firms with consideration of their financial statements for three years, he discovers that an evenly distributed capital structure has positive effect on firms' performance, while the effect of performance on leverage varies across the distribution of different capital structure as seen from the companies understudied. Most of the equity financed firms in the study performed as much as those who employed debt in their structure in term returns on equity and assets. Although we cannot generalize this fact as few other firms with debt finance performed more efficiently as in the case of Nestle Nig. Plc, Northern Nig Flour Mills Plc, hence the effect of leverage on efficiency varies across the distribution of different capital structure (1976). He recommends that investors should concentrate on engagement of efficient management team, motivation and other developmental programmes so as to achieve goal congruence in the long run.

Saidu, (2018), investigated the effect and nature of relationship capital structure on financial performance of firms in Nigerian Pension Industry which is the most recent development in Nigeria's financial sector. The population of the study is filtered to obtain 16 PFAs licensed by the PenCom. The study employs unbalance panel data of 80 observations which are drawn from sixteen Pension Funds Administrators from 2007 to 2012. The empirical result based on the 16 PFAs shows that long term liability has significant positive

impact on ROE while short term liability has significant negative impact on ROE. Though long-term liability is shown to have positive impact on ROA, the result is however not significant. It is also found that most of the firms in the Nigerian pension industry use zero leverage and this limit the chance of each of the firm to expand their earnings. It is concluded that firms in the Pension Industry underperform due to their inability to use long term debt in their capital structures. Finally, it is recommended PFAs should use debt in their capital structure so as to enhance their performances.

Dada & Ghazali (2016), in their study examined the capital structure and firm performance evidence from Nigeria. The study employed a sample size of 100 non-financial firms of listed Nigerian companies in the Nigerian Stock Exchange (NSE) for a period of 2010 to 2014. The annual financial statements have been examined using a panel data approach to analyse the empirical study. However, Tobin's Q and ROA are used as a proxy for the firm performance. It was found out that assets turnover and, tangible have a positive and significant relationship with Tobin's Q. Also, risk maintains negative and significant relations with Tobin's. Moreover, the age of a firm has negative and significant with ROA and Sales growth maintains positive and significant with ROA. Nonetheless, the finding of this study would go a long way to enhance the literature on capital structure and also the imperative for the non-financial companies in Nigeria in taking capital structure decisions as it is based on the most recent data cover the period of recession of 2008-2009 as being an adverse effect of recession on the Nigerian nonfinancial companies.

Akinyomi (2014) opined that capital structure decision is fundamental for the survival of business organizations. Previous researchers have reported conflicting results on the relationship between capital structure and performance. Thus, this study examines the effect of capital structure on firm performance in Nigeria. Data were obtained from annual reports of the companies from 2007-2011. Correlation analysis was employed in analyzing the data. The findings revealed that that each of DC, DCE, SDTD and AGE is significantly and positively related to ROE. Meanwhile, LDC is significantly but negatively related to ROE. Similarly, each of DC, DCE, SDTD and AGE is significantly and positively related to ROA. However, LDC is significantly and negatively related to ROA. The hypotheses tested confirmed that there is significant relationship between capital structure and financial performance using both ROA and ROE. The study contributes to the body of knowledge in financial management. Future researchers could carry out similar studies in small and medium scale industry. Key words: Performance, Firm Survival, Shareholders' Wealth, Capital Structure

Uzliawati *et al.*, (2018), examine the influence of capital structure towards firm value. The sample of their research consists of 101 manufacture companies listed in the Indonesian Stock Exchange during the period 2012 - 2015. The results of their study indicate that the higher the capital structure with Debt to Equity Ratio (DER) and Long-term Debt to Asset Ratio (LDAR) are indicators of a higher firm value, while lower Long-term Debt to Equity Ratio is an indicator of a lower firm value. Their findings reveal positive correlation

between Debt to Equity Ratio (DER) and Long-term Debt to Asset Ratio (LDAR) to firm value, and a negative correlation of Long term Debt to Equity Ratio (LDER) to firm value. However, the capital structure with Debt to Asset Ratio (DAR) did not seem to have an influence on the firm value.

Nguyen, & Nguyen, (2015), examined the impact capital structure has on firms' performance in selected firms listed on HCMC Stock Exchange Vietnam. The data is collected from 147 listed companies during the period from 2006 to 2014. The study not only checks the impact the level of leverage has on firms' performance, which is found to be negative in this study, but it also uses the short-term and long-term debt ratios to see the effect of debt maturity. However, there is no difference whether it is short-term or long-term. Tangibility is found to be negative with a very high proportion on average. With the suggestion that companies might invest too much in fixed assets and there is a lack of efficiency, this could be the alert for firms to improve their management process. Size and growth are found to be positive, since larger firms have lower costs of bankruptcy and higher growth rates associate with higher performance. Moreover, the study also adds the effects of industry and macroeconomics, and the result shows a correlation between the two factors and firms' performance.

Rashid, and Islam, (2009), examined the role of debt in affecting the performance/value of a firm (DVF relationship) in the developed financial market. There is no consensus on the DVF relationship in this market. In addition, literature about the DVF relationship in the developed market lacks the interpretation of results by taking into account different business, management and financial theories. The study addresses the gap in the literature by utilizing the panel data of 60 companies for the year 2000 to 2003 from the developed (Australian) financial market. The result of the study suggests that higher debt has a negative relationship with the value of a firm supporting agency theory in this market. The result also supports the second trade off theory and the foundation of developed market as debt in the presence of the dispersed shareholding deteriorates the value of a shareholder. The results relevant to the role of control variables in affecting the value of a firm show that smaller board, liquid market and information efficiency improve the firm's performance in the developed financial market. The results of the study are of value to both academics and policy makers.

Ghahroudi, Hoshino & Fakhraei (2019), investigated the influence of ownership structure capital structure on the survival of firms on Iran's stock market from 2005 to 2015. Firm survival is measured in terms of the exit of the firm I in year T from among 484 firms listed in the Tehran Stock Exchange. They used a binary logistic regression method to test the hypotheses. Their results reveal a significant inverse relationship between capital structure and firm survival and between major ownership and firm survival on the stock market, as well as a significant direct relationship between institutional ownership and firm survival. Thus, firms with a higher ratio of debt to assets have a higher probability of survival. However, those with a higher ratio of institutional ownership are less likely to survive.

Ismail, (2019), analyzed how the capital structure of the publicly traded airport companies affects their profitability and market valuation. Using an unbalanced panel data sample of 29 publicly traded airports from 20 countries over the 1989-2017 period, their findings suggest that higher total and long-term leverage tend to decrease return on assets whereas they are positively associated with return on equity.

Vo & Ellis (2017), investigated the relationship between capital structure and shareholder value in Vietnam. They use accounting and stock market data for firms listed on the Ho Chi Minh City stock exchange during the period 2007–2013. They analysis show a negative relation between financial leverage and shareholder value, indicative of a proportionately greater cost to debt financing than benefit for Vietnamese firms. Moreover, they find that only low leveraged firms are likely to create value for shareholders. Their study has implications for Vietnamese firm's preferred capital structure and for investors who contemplate to invest in Vietnamese stock markets.

Vural-Yavas (2016) main objective of his paper is to understand the determinants of the capital structure of the firms that provide high quality corporate-sustainability reporting. He studied all the non-financial companies quoted in Borsa Istanbul (BIST), Turkey in order to see the full picture of the market. Secondly, he analyzed all the firms that are included in the computation of the BIST Sustainability Index (XUSRD) as the firms that provide high quality corporate-sustainability reporting. In line with the literature on capital structure variables such as profitability, size, risk, growth, tangibility, non-debt tax shield and ownership structure were picked as the possible determinants of capital structure. Moreover, long- and short-term debt ratios were selected as the proxies for capital structure. His findings indicate that when capital structure is measured by long-term debt, profitability, size, tangibility, the ratio of free-float outstanding value to total assets, and institutional ownership percentage become the main determinants of capital structure for the whole market. For sustainability index firms, when capital structure is measured by the long-term debt ratio, the main determinants of capital structure is measured by the short-term debt ratio, tangibility and the ratio of free-float outstanding value to total assets become the main determinants of capital structure is measured by the short-term debt ratio, tangibility and the ratio of free-float outstanding value to total assets become the main determinants of capital structure is measured by the short-term debt ratio, tangibility and the ratio of free-float outstanding value to total assets become the main determinants of capital structure is measured by the short-term debt ratio, tangibility and the ratio of free-float outstanding value to total assets become the main determinants of capital structure is measured by the short-term debt ratio, tangibility and the ratio of free-float outstanding value to total assets become the main determin

Hussein, Muhannad & Mashhoor (2019), evaluated the influence of capital structure (CS) on the financial performance (FP) of listed companies on the Amman Stock Exchange (ASE) Jordan. An empirical model based on panel data obtained from 112 Jordanian listed companies between 2005 and 2017 is used to test correlation between CS and corporate performance to determine the statistical significance of the relationship. Their research findings show that the accounting performance measure that best explains the connection between CS and FP for all the companies listed on ASE is Return on Assets (ROA). From this model, they concluded that firm size and asset growth have a significant positive impact on ROA while short-term and total debt levels have a significant negative impact on ROA for all the corporations listed on ASE. The proxies for CS have the same effects on ROE, in which case the effect of total debt is

not statistically significant. Moreover, total debt has a statistically significant impact on EPS and Tobin's Q for all the sectors. Therefore, the research concludes that CS impacts on FP significantly.

Abdullah & Tursoy (2019), attemptd to empirically examine the relationship between firm performance and capital structure. Their study sample consists of the non-financial firms listed in Germany during the period 1993–2016. The European stock market transition to IFRS in 2005 is also considered as a shifting point that might have influenced the extent of the relationship. They observed that more than 60% of the total assets of German non-financial firms are financed through debt, i.e. they are highly levered compare to similar countries. The results confirm a positive relationship between firm performance and capital structure. They also found that IFRS adoption has led to increased firm performance of our sample, whereas it weakened the relationship between capital structure and firm performance is the benefits of the tax shield and the lower costs of issuing debt compared to equity.

Shah, Pitafi & Soomro (2019), in their study examined the nexus between capital structure and profitability of firms in the context of the Oil & Gas sector of Pakistan. The sample of this research is comprised of the top five top performing firms of the Oil & Gas sector for a period of ten years (2006-2015). Keeping in view the explanatory orientation of this research, quantitative research approach was employed. In order to achieve study objectives, the secondary data were extracted from the financial statements of the firms under study and data were analyzed through descriptive statistics and correlation coefficients. During data analysis, the profitability of the firm was measured in terms of Gross Profit Ratio (GPR), Return on Capital Employed (ROCE) and Return on Equity (ROE), whereas, the Capital Structure was measured in terms of Debt to Equity (D/E) ratio and Debt to Total Funds (D/TF) ratio. The findings drawn from this study revealed a negative linkage among various dimensions of Capital Structure of firms and their profitability potential in the context of the Oil & Gas sector of Pakistan. Their study findings corroborated that sample firms under study brought sudden changes in the composition of their debt and equity mix (capital structure) that significantly threatened the profitability of firms. This study suggests that selected firms understudy need to adopt consistent capital structure policies with a clear understanding of future profitability. Financial managers need to focus on developing prudent optimal capital structure and avoid making abrupt changes in the debt and equity mix of the firms.

Mohammadhosseini & Rajashekar (2019), desired to determine if a significant relationship existed between capital structure and financial performance in Tech Mahindra operating in the IT sector which is listed on the Bombay Stock Exchange (BSE), over a period of 3 years (2016-2018). Panel data Regression was the basis of their analysis. The indicators of capital structure were short-term debt, long-term debt; total equity and total debt, while Return on Equity (ROE) and Return on Assets (ROA) were the performance yardsticks. Various studies that had been conducted earlier mentioned that tax, asset tangibility, risk, inflation and liquidity determined the capital

structure of Indian companies. It was to be noted that if these factors were found to have a significant influence on the financing decisions of the company, an analysis of these factors were drawn and the company's performance were studied. The result after analysis signified that Indian companies performed better when their main focus was on equity and not on debt. They observed that the company did not use its assets optimally and did not have adequate funds to undertake profitable investments. It was a fact that when the tax rates went up along with the inflation, companies relieved their assets in order to cut down its costs. Even though companies possessed this behavior, they had the risk taking ability which meant that the companies opted for debt even when business risks were high and there were financial constraints. This paper explores the relationship between capital structure and firm value considering a sample of firms using Islamic and a sample using conventional financing. We obtained panel data with respect to firms listed on the Saudi Stock Market (SSM) for the period 2010 -2016 and used OLS and White's Robust Regression to analyse the data. This study differs from previous work, in that to our knowledge ours is the first to make comparisons between firms using Islamic and those using conventional financing, based on a sample covering a range of different industries, contrary to prior studies based on a sample of banks alone. Our findings reveal that the value of Saudi firms is negatively related to their capital structure. This result is consistent with the findings of most prior studies. In addition, the results show significant negative differences between the two groups of firms regarding the effect of financial leverage on firm value in both financial and non-financial firms.

It is therefore clear from the above-mentioned empirical analyses between capital structure and firm performance, that there are mixed results that have left literature in this area rather inconclusive.

Methods

This section is discussed under the following sub-sections.

Data and Variables Description:

Secondary data were collected from the financial statements of the selected manufacturing firms and also Nigerian stock exchange fact books as well as from other relevant sources as mentioned above.

This study hypothesized that there is no significant relationship between firm sustainability and corporate funding in the 40 listed manufacturing firms in Nigerian stock exchange. The features and conditions that guarantee sustainability of the firm as captured by other studies and utilized by our study include; value of the firm as perceived by the owners proxied by return on owners' equity (ROE), value of the firm expressed by firm's profitability and effectiveness and efficiency in assets utilization proxied by return on assets (ROA)

as well as value of the firm as perceived by the market/investors proxied by Tobin Q Ratio (TQR). For the various funding sources of the corporation, the study utilized ratio of equity to total assets (TETA), ratio of total debt to total assets (TDTA), ratio of retained earnings to total assets (RETA) and ratio of working capital to total assets (WATA).

Thus, we express the different feature of firm's sustainability as a function of corporate funding sources.

Firm sustainability =
$$f(Corporate Funding)$$
 (1.1)

The econometric form of the model is stated as:

$$ROE_t = \alpha_0 + \alpha_1 TETA_{t1} + \alpha_2 TDTA_{t2} + \alpha_3 RETA_{t3} + \alpha_4 WCTA_{t4} + \mu_t$$
(1.2)

$$ROA_t = \beta_0 + \beta_1 TETA_{t1} + \beta_2 TDTA_{t2} + \beta_3 RETA_{t3} + \beta_4 WCTA_{t4} + \Theta_t$$
(1.3)

$$TQR_{t} = \ddot{\Upsilon}_{0} + \ddot{\Upsilon}_{1}TETA_{t1} + \ddot{\Upsilon}_{2}TDTA_{t2} + \ddot{\Upsilon}_{3}RETA_{t3} + \ddot{\Upsilon}_{4}WCTA_{t4} + \infty_{t}$$
(1.4)

Where;

ROE = Return on Equity

ROA = Return on Assets

TQR = Tobin Q Ratio

TETA = Total Equity to Total Assets

TDTA = Total Debt to Total Assets

RETA = Retained Earnings to Total Assets

WCTA = Working Capital to Total Assets

A Priori Expectation

It is expected that the elasticity parameters $(\alpha_1 - \alpha_4, \beta_1, \beta_4, \ddot{\gamma}_1 - \ddot{\gamma}_4) > 0$, as all predictors are expected to have positive relationship with the criterion variable.

Methods of Data Analysis

The four (3) methods of data analysis used were the Unit Root, Multiple Regression Analysis and Granger Causality. The choice of our method of analysis stem from their suitability in dealing with problem relating to the effects on the dependent variable of several independent variables.

Tests for Stationarity

Stationarity or Unit root tests seek to evaluate the stationarity properties of the time series variables employed as both a necessary and pre-condition for estimating the co-integration equations. In this study, the Augmented Dicker-Fuller (ADF) tests are employed to confirm; (a) stationarity of the time series data employed, (b) avoid spurious estimates as a consequence of (a) above and (c) confirm the order of integration of the time series variables. The decision rule is that the absolute values of the ADF-statistic should be higher than those of the Test Critical Values at 1%, and 5% levels of significance for all the study variables employed.

Multiple Regression Analysis:

The multiple regression analysis is used to determine the strength/degree of relationship between the dependent variable and each of the independent variables.

Granger Causality: The Granger Causality is concerned with whether lagged values of the independent variables do not improve on the explanation the dependent variable obtained from only lagged values of the dependent variable itself. A simple test is to regress the dependent variable on the lagged values of itself and lagged values of the independent variables. If the latter are jointly not significant, the independent variables are said not to Granger cause the dependent variable. If one or more lagged values of the independent variables are significant, then the independent variable is said to Granger cause the dependent variable (Johnston & DiNardo, 1972; Granger, 1969). The Granger Causality test is predicated on the following regression equations;

$$Y_{t=}\beta_0 + \sum_{i=1}^n \beta_i Y_{t-i} + \sum_{i=0}^n \beta u X_{t-i} + \mu$$
 ------(4)

$$X_{t=}\alpha_{0} + \sum_{i=1}^{n} \alpha_{i} X_{t-i} + \sum_{i=0}^{n} \alpha u Y_{t-i} + \mu$$
 ------(5)

Where;

 Y_t and X_t are the time series variables under test, while μ_t and V_t are the idiosyncratic terms (white noise errors) that incorporate all variations in the time series variables Y_t and X_t not included in the lagged values. A maximum lag length of 2 was specified. **Presentation of Result**

Unit root/Nonstationarity Test

Tables 1 shows the Augmented Dickey-Fuller (ADF) unit root/no stationarity test results for the study variables. To determine the data generating process (DGP) for each data series, we perform the ADF test on the three random walk models; (1) pure random walk (2) random walk with drift and (3), random walk with drift and trend. Further, to determine the order of integration for each data series, we applied the test on both the level series and the first differenced series.

Variables ADF-statistic Test Critical Values			Order of	Probability
		Test Critical values	Integration	
ROF	-4.607382	1% level = -4.297073	I(1)	0.0064
ROE		5% level = -3.212696		
		10% level = -2.747676		
ROA	-4.834154	1% level = -4.297073	I(1)	0.0047
KUA		5% level = -3.212696		
		10% level = -2.747676		
TOR	-5.774816	1% level = -4.200056	I(1)	0.0010
IQK		5% level = -3.175352		
		10% level = -2.728985		
TFTA	-6.382734	1% level = -4.297073	I(1)	0.0006
ILIA		5% level = -3.212696		
		10% level = -2.747676		
ТПТА	-4.765531	1% level = -4.582648	I(1)	0.0081
IDIA		5% level = -3.320969		

Table 1: ADF unit root test results

RETA	-6.592106	10% level = -2.801384 1% level = -4.297073 5% level = -3.212696	I(1)	0.0083
WCTA	-6.011167	10% level = -2.747676 1% level = -4.297073 5% level = -3.212696 10% level = -2.747676	I(1)	0.0052

Source: EViews output

From Table 1.0 above, we observe that all the variables are stationary at first difference I(1) or integrated at order 1. The ADF-statistic for each of the variables is greater than the Test Critical Values and the associated probability estimates are all less than 0.05 significance level. This now sets us up for the econometric analysis.

Presentation of Regression Model Estimates

Table 2 below shows estimates of Regression results for the Model 1.

$ROE_t = \alpha_0 + \alpha_1 TETA_{t1} + \alpha_2 TDTA_{t2} + \alpha_3 RETA_{t3} + \alpha_4 WCTA_{t4} + \mu_t$

Table 2: Estimates of $ROE_t = \alpha_0 + \alpha_1 TETA_{t1} + \alpha_2 TDTA_{t2} + \alpha_3 RETA_{t3} + \alpha_4 WCTA_{t4} + \mu_t$

Dependent Variable: D(R				
Method: Least Squares				
Date: 10/24/19 Time: 16	6:55			
Sample (adjusted): 2008	2018			
Included observations: 11	l after adjustm	ents		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-0.646812	1.453579	-0.444979	0.6719
D(TETA)	40.41040	98.41226	0.410624	0.4969
D(TDTA)	-106.6057	147.4725	-0.722885	0.0045
D(RETA)	3.681750	91.70916	-0.040146	0.0093
D(WCTA)	-19.36722	15.37089	-1.259993	0.6956
R-squared	0.721697	Mean depen	dent var	-0.577273

0.710505	S.D. dependent var	3.755410
3.992946	Akaike info criterion	5.909891
95.66172	Schwarz criterion	6.090752
-27.50440	Hannan-Quinn criter.	5.795883
7.711402	Durbin-Watson stat	1.553914
0.000000		
	0.710505 3.992946 95.66172 -27.50440 7.711402 0.000000	0.710505S.D. dependent var3.992946Akaike info criterion95.66172Schwarz criterion-27.50440Hannan-Quinn criter.7.711402Durbin-Watson stat0.000000Image: Constant

Source: Authors' computation using E-View

The regression estimation results shows a coefficient of determination (R^2) of 0.710505, which implies that variations in all the explanatory variables account for about 71% of the variations in Return on Equity (ROE), while the rest 29% of the variations is attributable to other variables not captured in the study. The results provide evidence that in the short run, some of the funding sources of the corporations are significant in explaining the variations in return on equity. From the results, Retained Earnings to Total Assets as well as total debt to total Assets are significant in explaining variations in return on equity. On the other hand, total equity to total assets as well as Working Capital to total assets failed the significance test. The probability estimates of the relationship between retained earnings to total assets and return on equity is 0.0093 while that of total debt to total assets is 0.0045 both of which are less than 0.05, our preferred level of significance, establishing a significant relationship. On the other hand, the probability estimate of the relationship between total equity to total assets and return on equity is 0.6719 and that between working capital to total assets is 0.6956. The probability estimates are greater than our preferred level of significance, (0.05) indicating an insignificant relationship.

On the whole, the F-statistic is significant at 0.05 level, which implies a good line of fit while the Durbin-Watson statistic value of 1.553914 is within acceptable range and serves as an evidence of absence of significant autocorrelation.

Presentation of Granger Causality Estimates

Table 3 below shows estimates of Granger Causality

Table 3: Pairwise Granger Causality Tests

Pairwise Granger Causality Tests			
Date: 10/24/19 Time: 16:57			
Sample: 2007 2018			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob
	1		

D(TETA) does not Granger Cause D(ROE)	9	0.99363	0.4463
D(ROE) does not Granger Cause D(TETA)		4.58002	0.0924
D(TDTA) does not Granger Cause D(ROE)	9	0.17004	0.0177
D(ROE) does not Granger Cause D(TDTA)		0.56444	0.0073
D(RETA) does not Granger Cause D(ROE)	9	2.74827	0.0014
D(ROE) does not Granger Cause D(RETA)	•	0.22135	0.8106
D(WCTA) does not Granger Cause D(ROE)	9	1.09466	0.8494
D(ROE) does not Granger Cause D(WCTA)	•	21.3706	0.6082

Source: Author's Computation using E-VIEWS 9

Granger causality test is about direction of influence between variables. It is a test of whether one time series contributes to the prediction of another time series. The test is based on comparing the mean squared error of the model with and without the variable on the right hand side. In Granger causality test, the null hypothesis is that there is no 'causality' between two variables. Thus, we try to establish causality priori, superior or inferior between variables (depending on the direction of influence). The decision rule here is that the null hypothesis is rejected if the probability value of the F-statistic given in the Pair-wise Granger Causality Tests result is less than 0.05 (our preferred level of significance), otherwise, we do not reject the null hypothesis.

The Granger causality estimation test result on the direction of causality shows that there exists a significant bi-directional relationship between return on equity and total equity to total assets while a significant uni-directional relationship exists between return on equity and retained earnings to total assets. The direction of causality flows from retained earnings to total assets to return on equity. On the other hand, return on equity and total equity to total assets as well as working capital to total assets are observed to exhibit no evidence of significant causal relationship at 0.05 level during the study period.

Table 4 below shows estimates of regression results for the Model 2.

 $ROA_t = \beta_0 + \beta_1 TETA_{t1} + \beta_2 TDTA_{t2} + \beta_3 RETA_{t3} + \beta_4 WCTA_{t4} + \Theta_t$

Table 3: Estimates of $ROA_t = \alpha_0 + \alpha_1 TETA_{t1} + \alpha_2 TDTA_{t2} + \alpha_3 RETA_{t3} + \alpha_4 WCTA_{t4} + \Theta_t$

Dependent Variable: D(ROA)			
Method: Least Squares				
Date: 10/24/19 Time: 1	6:51			
Sample (adjusted): 200	8 2018			
Included observations:	11 after adjustme	ents		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-0.225192	0.421794	-0.533889	0.6126
D(TETA)	2.793846	28.55692	28.55692 0.097834	
D(TDTA)	-53.93861	42.79305 1.260453		0.0043
D(RETA)	67.89266	26.61184 2.551221		0.0434
D(WCTA)	-2.189889	4.460271	4.460271 -0.490977	
R-squared	0.648627	Mean depen	dent var	-0.221818
Adjusted R-squared	0.614378	S.D. depend	ent var	1.514073
S.E. of regression	1.158659	Akaike info c	riterion	3.435359
Sum squared resid	8.054943	Schwarz criterion		3.616220
Log likelihood	-13.89447	Hannan-Quinn criter.		3.321351
F-statistic	2.768962	Durbin-Watson stat		1.845481
Prob(F-statistic)	0.000000			

Source: Authors' computation using E-View

For our second model, the regression estimates show a coefficient of determination (R^2) of 0.614378, which implies that variations in all the explanatory variables account for about 61% of the variations in the dependent variable, return on assets, while the rest 39% of the variations, is attributable to other variables not captured in the study. The results provide evidence that the total debt to total assets, retained earnings to total assets as well as working capital to total assets all are significant in explaining variations in return on assets. On the other hand, total equity to total assets shows insignificant relationship with the dependent variable, return on equity. The probability estimates of the relationship between total debt to total assets, retained earnings to total assets, working capital to total assets and return on assets are 0.0043, 0.0434 and 0.0409 respectively. These figures are less than 0.05 level of significance showing evidence of significant relationship between total equity to total assets and the criterion variable. On the other hand, the probability estimate of the relationship between total assets and return on assets is 0.9253. The probability estimate is greater than our preferred level of significance, (0.05) indicating an insignificant relationship.

Also, the F-statistic is significant at 0.05 level, which implies a good line of fit while the Durbin-Watson statistic value of 1.845481 is within acceptable range and serves as an evidence of absence of significant autocorrelation.

Presentation of Granger Causality Estimates

Table 4 below shows estimates of Granger Causality

Table 4 Pairwise Granger Causality Tests

Pairwise Granger Causality Tests			
Date: 10/24/19 Time: 16:52			
Sample: 2007 2018			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
D(TETA) does not Granger Cause D(ROA)	9	0.69991	0.5487
D(ROA) does not Granger Cause D(TETA)		0.82791	0.5002
D(TDTA) does not Granger Cause D(ROA)	9	0.64493	0.0018
D(ROA) does not Granger Cause D(TDTA)		2.04392	0.2446
D(RETA) does not Granger Cause D(ROA)	9	0.08132	0.0234

D(ROA) does not Granger Cause D(RETA)		0.75665	0.0064
D(WCTA) does not Granger Cause D(ROA)	9	5.69814	0.0075
D(ROA) does not Granger Cause D(WCTA)		3.15473	0.1505

Source: Author's Computation using E-VIEWS 9

From the Granger causality estimation test above, there exists a significant bi-directional relationship between return on assets and retained earnings to total assets while a significant uni-directional relationship exists between return on assets and total debt to total assets. The direction of causality flows from total debt to total assets to return on assets. Also, a significant uni-directional causal relationship exists between working capital to total assets and return on assets, with the direction of causality flowing from former to latter. On the other hand, return on assets and total equity to total assets are observed to exhibit no evidence of significant causal relationship at 0.05 level during the study period.

Table 5 below shows estimates of Regression results for the Model 3.

 $TQR_t = \ddot{\Upsilon}_0 + \ddot{\Upsilon}_1 TETA_{t1} + \ddot{\Upsilon}_2 TDTA_{t2} + \ddot{\Upsilon}_3 RETA_{t3} + \ddot{\Upsilon}_4 WCTA_{t\,4} + \infty_t$

Table 5: Estimates (л түк – т	0 + 111C1A	$t_{1} + 121D1P$	$A_{t2} + 13KE$
Dependent Variable: D(T				
Method: Least Squares				
Date: 10/24/19 Time: 16	6:59			
Sample (adjusted): 2008	2018			
Included observations: 1	1 after adjustm	ents		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-0.084913	0.108837	-0.780185	0.4649
D(TETA)	-4.748836	7.368667	-0.644463	0.5431
D(TDTA)	-0.703224	11.04208	-0.063686	0.0013
D(RETA)	8.403836	6.866769	1.223841	0.0269
D(WCTA)	0.499032	1.150903	0.433601	0.0097
R-squared	0.594412	Mean dependent var		-0.070909
Adjusted R-squared	0.522647	S.D. dependent var		0.262962
S.E. of regression	0.298974	Akaike info criterion		0.726034
Sum squared resid	0.536312	Schwarz criterion		0.906895

Table 5: Estimates of TQR = $\ddot{\Upsilon}_0 + \ddot{\Upsilon}_1 \text{TETA}_{t1} + \ddot{\Upsilon}_2 \text{TDTA}_{t2} + \ddot{\Upsilon}_3 \text{RETA}_{t3} + \ddot{\Upsilon}_4 \text{WCTA}_{t4} + \infty_t$

Log likelihood	1.006813	Hannan-Quinn criter.	0.612026
F-statistic	8.434016	Durbin-Watson stat	2.234474
Prob(F-statistic)	0.000000		

Source: Authors' computation using E-View

For our third and final model, the regression results show a coefficient of determination (R^2) of 0.522647, which implies that variations in all the explanatory variables account for about 52% of the variations in the dependent variable, Tobin Q Ratio (TQR), while the rest 48% of the variations, is attributable to other variables not captured in the study. The results provide evidence that the total debt to total assets, retained earnings to total assets as well as working capital to total assets all are significant in explaining variations in Torbin Q Ratio (TQR). On the other hand, total equity to total assets shows insignificant relationship with the dependent variable. The probability estimates of the relationship between total debt to total assets, retained earnings to total assets, and working capital to total assets are 0.0013, 0.0269 and 0.0097 respectively. These figures are less than 0.05 level of significance showing evidence of significant relationship between total equity to total assets and Torbin Q Ratio (TQR). On the other hand, the probability estimate of the relationship between total equity to total assets and Torbin Q Ratio (TQR). On the other hand, the probability estimate of the relationship between total equity to total assets and TQR is 0.5431. The probability estimate is greater than our preferred level of significance, (0.05) indicating an insignificant relationship.

Also, the F-statistic is significant at 0.05 level, which implies a good line of fit while the Durbin-Watson statistic value of 2.234474 is within acceptable range and serves as an evidence of absence of significant autocorrelation.

Presentation of Granger Causality Estimates

Table 6 below shows estimates of Granger Causality

Table 6: Pairwise Granger Causality Tests

Pairwise Granger Causality Tests			
Date: 10/24/19 Time: 17:00			
Sample: 2007 2018			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.

D(TETA) does not Granger Cause D(TQR)	9	4.24961	0.1024
D(TQR) does not Granger Cause D(TETA)		2.96967	0.0120
D(TDTA) does not Granger Cause D(TQR)	9	0.23141	0.0033
D(TQR) does not Granger Cause D(TDTA)	•	0.24374	0.0045
D(RETA) does not Granger Cause D(TQR)	9	0.36689	0.7140
D(TQR) does not Granger Cause D(RETA)	·	0.25041	0.7898
D(WCTA) does not Granger Cause D(TQR)	9	0.03431	0.9666
D(TQR) does not Granger Cause D(WCTA)	·	1.42330	0.3413

Source: Author's Computation using E-VIEWS 9

The Granger causality estimation test above shows the existence of significant bi-directional relationship between Torbin Q Ratio and total debt to total assets while a significant uni-directional relationship exists between Torbin Q Ratio and total debt to total assets. The direction of causality flows from Torbin Q Ratio to total debt to total assets. On the other hand, Torbin Q Ratio and total equity to total assets and Torbin Q Ratio and working capital to total assets are observed to exhibit no evidence of significant causal relationship at 0.05 level during the study period.

Discussion of Findings

Corporate firms of different sizes often have a common problem, which is, deciding on how appropriate to fund their operations for guaranteed profitability and sustainability. The decision is of extreme importance given the impact it has on firm value, performance and sustainability. The capital structure of a firm is a specific mix of debt and equity the firm uses to finance its operations (Abor, 2005). It is important for the firm however, to find the particular combination of debt and equity that maximizes its overall market value (Abor, 2007).

The broad objective of this study as earlier mentioned is to empirically ascertain the nature of relationship that exists between corporate funding and firm sustainability in a developing country like Nigeria. The features and conditions that guarantee sustainability of the firm as captured by other studies like Mohamad and Saad, (2012), Singhal, (2014) and utilized by our study include; value of the firm as perceived by the owners proxied by return on owners' equity, value of the firm expressed by firm's profitability and effectiveness and efficiency in assets utilization proxied by return on assets as well as value of the firm as perceived by the market/investors proxied by Tobin Q Ratio. From theoretical underpinning and previous works on the subject matter, several funding sources available to the

corporate organization are included in the study to ascertain their strength in determining the sustainability of the corporate firm with respect to Nigerian peculiar economic environment as a developing economy. The variables for the study as deduced from previous studies include equity to total assets, ratio of total debt to total assets, ratio of retained earnings to total assets and ratio of working capital to total assets.

On the a priori expectation, the findings reveal that all the variables conform to the a priori (bearing the expected signs). However, one salient outcome noteworthy is the behavior of total debt to total assets across the three models. Total debt to total assets show consistent significant and negative relationship with each of the dependent variables in the three models. This is in conformity with the proponent of Traditional view of capital structure.

The long-term debt effect on profitability is significant and negative. The regression results show that if the amount of long term debt increases then it will decrease the measures of sustainability of the companies (in each of the three models) as captured in our study. The above results show that if there is increase in long term debt by then performance will decrease. Long-term debt was significantly related to the criterion variables in each of the models. The earlier study by Nguyen and Nguyen (2015) found the negative relation between performance and long term debt. The results also match the theory of pecking order which stated that companies should use the internal generated funds rather than take the loan which is costly and decrease the performance of companies. The outcome is in consonance with pecking order theory that with the presence of asymmetric information, a firm is better financed by internally generated funds than external funds. Thus the problems of asymmetric information might raise the cost of external finance, there in turn leading to credit rationing which may not be optimally obtained in transitory economies. Also, the findings of the study are consistent with other previous empirical studies underscored in the previous section. The performance of companies has reduced by using the debt because debt has increased the interest cost and reduced the income. The result indicates highly significant positive effects of retained earnings to assets and the dependent variables in each of the models. The implication is that the firms with higher retained earnings per share are more likely to display sign of sustainable growth than firms with lower retained earnings per share. That is, the higher the retained earnings per share, the higher the return on assets, return on equity and also more favourable Tobin Q ratio. By this result also, one can aptly say with 95% confidence that Tiroles (1956) who submits that the contributions by retained earnings help to increase the turnover, assets and capital base of a corporation thereby enhancing effect corporate performance. It is therefore concluded from the findings of the study that corporations retain much of their profits for re-investment. This will make funds readily available to them and avoid the problem of working capital shortages. This will equally enhance efficiency and productivity, expansion and diversification and even automation and modernization.

Conclusion

Recognizing the importance of firms' decision on funding its operations and consequential impact on profitability and sustainability of the corporations, the study sets out to investigate the effect of corporate funding on sustainability of the firm. The Ordinary Least Square Multiple Regression as well as Granger Causality was employed to carry out econometric analysis. The result indicates that Tobin's Q as a measure of value is related to the retained earnings as reported by previous studies. It is interesting to note that in general, the results are robust for all three evaluation methods and the co-efficient of Tobin'q is strong. This study also established that there is a strong and positive relationship between earnings retentions and Tobin Q ratio. The findings concur with the views of Campbell (2012) who posits that retained earnings ultimately come back to the equity shares in the form of enhanced value or capital gains. The results further support the findings of Khan et al. (2013) who empirically proved that variation in retained earnings does affect the market value of Pakistani textile industry.

Recommendations

This research work presents fresh discoveries with regards to corporate funding and firms' sustainability in a peculiar economic environment as Nigeria's. One major inference to be drawn from the findings is that pecking order theory is seen to be most appropriate for firms' profitability and sustainability in Nigerian context. Based on the findings, the study has established that earnings retention has a positive and significant relationship with sustainability of firms. To this end, the study recommends that it is necessary to retain part of the earnings to finance new investment capable of generating more wealth and having positive contributions to the shareholders. Also, corporate managers should endeavour to make judicious and efficient use of earnings to increase investor returns and that firms should retain when there are investment opportunities with a positive net present value (NPV). This requires that the managers should carry a succinct analysis of the available projects to ensure maximum returns are attained by investing in the most appropriate projects. To the investors, the study recommends that they should monitor and ensure that undistributed profit/earnings are judiciously used to create value in return. Also, they should invest in organizations which use retained earnings to finance investment opportunity and create value. The increase in debt causes the decrease in performance of the companies because debt is expensive source of finance. So, the companies should rely on internal source of finance which is most reliable and cheapest source of finance. Companies should use the

less level of debt because it decreases the performance of companies. The companies should use the optimal level of capital structure because high level of debt causes the insolvency risk of companies. Further, in order to ensure conventional benefit of leverage ratios, there is need for Nigerian quoted firms to balance the trade-off between the benefits of debt and bankruptcy costs. This implies that a firm needs to choose debt ratio at certain proportion to be better off. A policy or policies should be instituted by companies' regulatory bodies whereby a reasonable percentage of net profit is retained in the business. Since price-earnings and the earnings yield depends on the capitalization of present earnings. Earnings should therefore be retained and re-invested immediately into the business.

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