

**TRADE-OFF VARIABLES AND CORPORATE VALUE: A MULTI-DIMENSIONAL
PANEL DATA STUDY OF QUOTED SMALL AND MEDIUM SCALE ENTERPRISES
FROM NIGERIA**

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ABSTRACT

This study examined the relationship between trade off variables and net book value of quoted small and medium scale enterprises in Nigeria. Secondary data were obtained from financial statement of 10 quoted small and medium scale enterprises from 2009 – 2018. Net book value was modeled as the function of, non-tax shield, business risk and tangibility. Panel data methods were employed while the fixed and random effects models were used as estimation technique at 5% level of significance. Fixed effects, random effects and pooled estimates were tested while the Hausman test was used to determine the best fit. Panel unit roots and panel cointegration analysis were conducted on the study. The result from found that 54.2 percent, percent variations in the net book value of the quoted small and medium scale enterprises, the coefficient of business risk has a positive coefficient and not significant to influence net book value, non-tax shield have positive and not significant to impact on net book value while the tangibility have negative and significant to impact on net book value of the quoted small and medium scale enterprises. From the findings, the study concludes that there is no significant relationship between non-tax shield and net book value of quoted small and medium scale enterprises in Nigeria. That there is no significant relationship between business risk and net book value of small and medium scale enterprises value in Nigeria. That there is significant relationship between tangibility and net book value of quoted small and medium scale enterprises in Nigeria. We recommend that management of the quoted small and medium scale enterprises should set a target debt level that will maximize value and should strive not to go beyond such levels in order to maximize their value as reflected in the high positive impact of debt capital on the small and medium scale enterprises. The small and medium scale enterprises should take advantage of debt's tax deductibility nature as a debt capital while starting up which will boost their accounting performance and by extension, their market value.

KEYWORDS: Trade-Off Variables, Corporate Value, Panel Data Study, Quoted Small and Medium Scale Enterprises, Nigeria

INTRODUCTION

Determining the optimal capital structure of the firm is a critical financial management function. It involves the weighing of the pros and cons of various sources of financing and selecting the most advantageous, keeping in view the target capital and its effect on the value of the firm (Babalola,

2014). Unlike the classical theories of capital structure, modern theories takes into accounts taxes, financial distress, agency cost, information asymmetry and the effect of market imperfections which are considered nonexistence in the Miller and Modigliani assumptions. The classical models of financial evaluation indicate that capital structure like the dividend policy is important, since optimal capital mix effect the value of the corporate firm. It is used as financial signaling to outsiders regarding the stability and growth prospects of the firm.

The need to provide accessible windows for financing small businesses in a sustained manner has not gone unnoticed by government, beginning with structural, institutional and policy reforms to ensure cheaper sources of capital that will enhance corporate investment and realize economic growth as well as full employment. For instance, the establishment of Second Tier Securities Market in 1985, and the commencement of Alternatives Security Market or emerging companies markets, was to provide soft requirements for small businesses in the securities market (Dagogo and Imegi, 2017).

The tradeoff theory of capital structure states that in order to maintain the balance between the pros and cons of debt and equity financing, the firm must choose the mixed type of financing. Moreover, the cost of capital cannot be minimized by increasing the debt level because at a specific point, the cost of debt will become more expensive than the cost of equity because it increases the leverage level and due to which the risk of creditor increases because of which their required rate of return increases.

Efficient-market hypothesis asserts that financial market is informationally efficient. There are three major forms of the hypothesis: "weak", "semi-strong", and "strong". Weak form efficient market hypothesis claims that prices on traded assets (for example, stock bonds, or property) already reflect all past publicly available information. Semi-strong form efficient market hypothesis states that prices reflect all publicly available information and those prices instantly change to reflect new public information. Strong form efficient market hypothesis additionally claims that prices instantly reflect even hidden or "insider" information. Efficient market theory implies that market will react quickly to new information (Akani and Lucky, 2014). Thus, it is important to know when the accounting report first became publicly known. The accounting report is informative only if it provides data not previously known by the market.

The prediction of the trade-off theory is that the optimal capital structure exists and is determined by the achievement of balance between tax benefits and costs of debt, considering other constant variables. Companies substitute debt with equity or equity with debt until the value of the firm is maximized. This is the original static trade-off theory which is derived from not taking into account the imposition and the nullity of bankruptcy costs. The above theories and theoretical explanations are well acknowledged but they failed to capture the market condition of the developing countries like Nigeria, this study examined the effect of trade-off on corporate value of quoted small and medium

scale enterprise in Nigeria.

LITERATURE REVIEW

Concept of Trade off Variable

The static trade-off theory is about finding the optimal balance between the benefits and the cost of debt and equity (de Bie and de Haan, 2007). Based on the influence of tax and costs of financial distress, organizations have a target debt-to-equity ratio (Brounen, de Jong and Koedijk, 2006). The debt-to-equity ratio leads to the optimal capital structure for the organization. Organizations are trying to achieve this target ratio (Myers, 1984). The trade-off theory suggests that an organization is balancing their choice for financing with debt or equity on the costs and the benefits of debt. The target debt-to-equity ratio is based on finding the best balance between the benefits of tax and the cost of financial distress. In most empirical studies, two proxies are taken in consideration to measure the trade-off theory. These proxies have to deal with the benefits of tax and the bankruptcy costs, the non-debt tax shield and the costs of financial distress (Brounen, de Jong and Koedijk, 2006; Degryse, de Goeij and Kappert, 2012; de Haan and Hinloopen, 2003; de Jong, 2002).

Trade off theory was formulated by Modigliani and Miller in 1963. The theory altered the underlying argument of their classical proposition of capital structure. They incorporate the corporate income tax and contend that the value of the firm, if levered, equals the value of the firm if unlevered plus the value of the generated tax benefit. Modigliani and Miller (1963) as Modigliani and Miller (1958) ignore the agency and bankruptcy costs of debt. To certain limits, the presence of agency and bankruptcy costs of debt may outweigh its tax benefit, suggesting that there is some threshold level of debt, under which the firm's value is maximized. This threshold of debt is generally called the optimal (target) level of capital structure and is defined by the trade-off between costs of debt and its benefits.

Most empirical studies found evidence that support the trade-off theory (Frank and Goyal, 2008). Deesomsak, Paudyal and Pescetto (2004) found empirical evidence that the trade-off theory influenced the capital structure decisions of firms in the Asia Pacific. De Haan and Hinloopen (2003) tested different proxies of the trade-off theory and found empirical evidence that the trade-off theory was an important determinant in the capital structure choice of their target sample. However, they did not found evidence for all the proxies they tested. Delcoure (2007) found for organizations in the Western of Europe evidence that the trade-off theory was important in the financing choice. In their capital structure study of 42 countries, de Jong, Kabir and Nguyen (2008) found empirical evidence that the trade-off theory influenced the financing decisions. Brounen, de Jong and Koedijk (2006) showed also evidence of the existence of the trade-off theory in organizations. They investigated firms in four countries, including the Netherlands. Overall, they found for all four countries a moderately support of the trade-off theory.

Non-debt tax shield

The non-debt tax shield influences the capital structure of an organization (Miller, 1977). DeAngelo and Masulis (1980) presented a model which incorporated corporate tax, personal tax and non-debt tax shield in order to find the optimal capital structure. Interest, which should be paid over debt, is tax deductible. Therefore, firms prefer to finance their deficit with debt instead of equity. According to DeAngelo and Masulis (1980), the non-debt tax shield is a substitute for the benefits of debt financing. Firms are motivated to use debt instead of equity in order to save corporate taxes. The non-debt tax shield can be used as depreciation to reduce the tax of the corporation. Firms with large non-debt tax shields, this are organizations which has a low taxable income, issue less debt. De Jong (2002) investigated Dutch listed firms and found that the leverage of Dutch organizations is determined by the non-debt tax shield.

Financing with debt has some benefits. DeAngelo and Masulis (1980) stated that the non-debt tax shield is a substitute for these benefits of debt. Interest is tax deductible, therefore organizations are motivated to finance with debt instead of equity. As a consequence, firms with a large non-debt tax shield issues less debt. A common way to measure non-debt tax shield is dividing depreciation by total assets (Deesomsak, Paudyal and Pescetto, 2004; Degryse, de Goeij and Kappert, 2012; Delcoure, 2007; Frank and Goyal, 2008; de Haan and Hinloopen, 2003; Titman and Wessels, 1988).

Business Risk

Businesses face the risk that they go bankrupt. Paying the debt holders is mandatory, while paying returns to the shareholder is voluntary. If an organization fails in servicing debt, the debt holders can ask for bankruptcy of the organization (de Jong, 2002). Debt has some influence on this risk of going bankrupt. The disadvantage of debt is that it increases the possibility of going bankrupt. This possibility of going bankrupt produces costs for the organization: (1) direct costs and (2) indirect costs. Direct costs include administrative fees and legal fees, such as accountants. Indirect costs are costs which are not directly related to the possibility of going bankrupt, but it is the cause of costs like loss of sales, employees who leave the company, additional cost to operate, et cetera (Hillier, Jaffe, Jordan, Ross and Westerfield, 2010). Business risk increases the bankruptcy costs.

However, the use of tangible assets can reduce the costs of financial distress (Delcoure, 2007). De Jong, Kabir and Nguyen (2008) and de Jong (2002) used business risk, tangibility and size as proxies to measure the cost of financial distress. Where some researchers found significant evidence that business risk influenced the financial leverage of an organization (de Jong, 2002; de Jong, Kabir and Nguyen, 2008), Antoniou, Guney & Paudyal (2008), Deloure (2007), de Jong (2002) and Titman and Wessels (1988) found empirical evidence that there was a relationship between tangibility and financial leverage.

Business risk has to deal with the risk that an organization goes bankrupt. Earnings volatility is an important determinant in determining business risk and is used by several researchers (Antoniou, Guney and Paudyal, 2008; Brounen, de Jong and Koedijk, 2006; Delcoure, 2007; de Jong, 2002; de Jong, Kabir and Ngyen, 2008). De Jong, Kabir and Ngyen (2008) stated that higher risk indicates higher volatility of earnings and higher probability of bankruptcy. Organizations which have a higher earnings volatility faces the risk that their earnings are not enough to pay their debt servicing to the debt holders. Therefore, organizations with higher earnings volatility have a larger probability of financial distress (Delcoure, 2007). This leads to an increase in the rate of return to the debt holders, because the business risk is higher.

Tangibility

The costs of financial distress play an important role in the trade-off theory. Tangible assets can reduce the bankruptcy costs. This is because tangible assets can be used as collateral. In this way, lenders are provided with securities when the firm is in financial distress and the organization can obtain debt. When the organization provides the lenders with collateral, the risk of the lenders has decreased. In this way, an organization can borrow debt even if the organization is in financial distress (Delcoure, 2007). Delcoure (2007) found a positive relationship between asset tangibility and leverage, just as Titman and Wessels (1988). De Jong (2002) found also a positive relationship between tangibility and leverage for large Dutch listed firms.

Tangible assets reduce the costs of financial distress if they are used as collateral. The risk of the debt holder decreases, which means that organization, can borrow loans at a lower rate. Tangibility is by Chen and Jiang (2001), Deesomsak, Pescetto and Paudyal (2004) and de Jong, Kabir and Nguyen (2008) defined as total fixed assets divided by the total assets.

Price Book Value

The ratio of stock price to book value of the company, indicating the level of the company's ability to create value relative to the amount of capital invested. High Price Book Value reflect stock price higher than the book value per share, the higher the stock price, the more successful the company to create value for shareholders. Fully-diluted means that it includes in-the-money options, warrants and convertible securities aside from just the basic shares outstanding. If a company plans to acquire another company, it will need to pay that company's shareholders by paying at least the market capitalization value. This alone is not considered an accurate measure of a company's true value and for that reason; other items are added to it as seen in the enterprise value equation.

The success of the company creates value certainly gives hope to the shareholders in the form of larger profits as well (Sartono, 2001), simply states that the PBV is the ratio of the market (market ratio) which is used to measure the performance of the stock market price of the book value.

$$\text{PBV: } \frac{\text{Market Price per share}}{\text{Book Value per share}} \quad (1)$$

Price to book value ratio is a valuation ratio that is used by investment advisors, fund managers and investors to compare a company's market value (market capitalization) to its book value (shareholders' equity). The price to book value ratio which is expressed as a multiple (how many times a company's share is trading per share compared to the company's book value per share) is an indication of how much shareholders are paying for the net assets of a company. This study is underpinned by the dividend discount model which is a method of valuing a company's share price based on the theory that its share is worth the sum of all of its future dividend payments when they are discounted back to their present value. Dividend discount model is used to value shares based on the net present value of the future dividends.

The model most widely used in the field of finance is referred to as the Gordon model. The Gordon model computes the value of a share such that the sum of its dividend yield (income) plus its growth (capital gains) equals to the investor's total required rate of return (Damodaran 2006). There are two basic forms of the model namely the stable model and the multistage model. Damodaran (2006) stated that in the stable model, the value of a share is equal to the expected annual dividend per share (which is expected to grow at a constant rate) divided by the cost of equity. In the multistage growth model, dividends are not expected to grow at a constant rate and thus the investor must evaluate each year's dividends separately, incorporating each year's expected dividend growth rate.

According to Damodaran (2006) the multistage model assumes that dividend growth eventually becomes constant at some time in the future. The Gordon model allows for the calculation of the value of a share exclusive of current market conditions and this allows investors to make equitable comparisons among companies in different industries. Consequently, the model is commonly used in equity analysis and business valuation.

Theoretical Foundation

Trade-Off Theory

Scholars who developed the tradeoff theory proposed that firms supported by both equities and debts deal with two fundamental concepts of financial and agency costs (Aabi, 2014; Serrasqueiro et al., 2016). According to the tradeoff theory, financial leadership consists mainly of maximizing investors' equity by increasing the market value of the company (Aabi, 2014; Serrasqueiro et al., 2016). Proponents of the tradeoff theory have suggested that an optimal capital structure maximizes the value of the firm by balancing the prices and benefits of an additional unit of debt (Ghazouani, 2013; Serrasqueiro et al., 2016). In tradeoff theory, the interests of agents are dependable and valuable to the

leader (Aabi, 2014). Firms achieve an optimal level of debt by balancing the benefits and costs of debt (Serrasqueiro et al., 2016).

The problems of lack of access to resources by Firms are mainly the effect of lack of informational transparency (Aabi, 2014). The lack of information transparency on the part of firms creates difficulty for external agents to identify their financial circumstances (Aabi, 2014). The information distortion, which characterizes the relationship between banks and Firms, leads to exposure to credit control (Aabi, 2014). There are conflicts of interest between the various parties involved in financing and borrowing (Aabi, 2014). Firms have difficulty accessing credit, and the key constraint players are credit institutions (Aabi, 2014).

This means, among other things, that the tax advantages of debt financing are somewhat greater than we originally suggested (Modigliani and Miller, 1963). So, firms increase the level of debt in order to gain the maximum tax benefit but at the other side they increase the risk of a possible bankruptcy. According to the static trade-off hypothesis, a firm's performance affects its target debt ratio, which in turn is reflected in the firm's choice of securities issued and its observed debt ratios (Hovakimian et al., 2001). The standard presentation of static trade-off theory is provided by Bradley et al. (1984). They made the following conclusion based on their static trade-off model:

1. An increase in the costs of financial distress reduces the optimal debt level.
2. An increase in non-debt tax shields reduces the optimal debt level.
3. An increase in the personal tax rate on equity increases the optimal debt level.
4. At the optimal capital structure, an increase in the marginal bondholder tax rate decreases the optimal level of debt.
5. The effect of risk is ambiguous, even if uncertainty is assumed to be normally distributed. The relationship between debt and volatility is negative. This theory has been both criticized and supported focusing on the fact that this theory is based on the assumption of perfect knowledge in a perfect market (Myers, 1984).

Dynamic Trade-Off Theory

There is a large literature on dynamic adjustment of capital structure. A common theme in this bank of the literature is that the indebtedness wished (or optimal) and real cannot be equal at any time. Market frictions such as transaction costs and financial market imperfections can prevent instantaneous adjustment of the real debts at the desired level. For example, Fischer, Heinkel and Zechner (1989) showed that even small recapitalization costs could lead to large oscillations in the ratio of debt of a company over time while Leland (1998) emphasizes the role of agency costs of debt by determining the optimal debts. Myers (1984) emphasized that the adjustment costs are not a prime interest in the context of the static trade-off theory and they are rarely mentioned, indeed. Adjustment

costs exist and occur as a result, the time adjustment towards the optimal ratio.

Firms can not eliminate random events that deviate from the optimum; it is possible to observe the cross-sectional dispersion of current debt ratios across a sample of firms with the same target ratio. Important adjustment costs may explain the observed wide variation of current debt ratios as firms are obliged to operate far from their optimal ratios. Taggart (1977) and Marsh (1982) were among the first ones to defend this view.

Fisher, Heinkel and Zechner (1989) and Jalilvand and Harris (1984), among others, join of this lineage. These authors had at the same time theoretical reflections and empirical researches. They consider that investment and financing decisions establish a simultaneous process and firms converge to the target value in the long term. This interdependence explains the existence of partial adjustment in the presence of market imperfections. Indeed, in a perfect market, the adjustment is not influenced by any determinant and is instantaneous complete.

Jalilvand and Harris (1984), model financing decisions and dividend as a two-stage process that involves the formation of target values and adjusting them. They consider, moreover, that the targets are given and are interested in the determiners of the adjustment, period by period of financial targets and interdependencies between financing decisions as and when the adjustment occurs. Jalilvand and Harris (1984) put in relation the changes in the asset (investment) with variation of the liabilities.

Static Trade-off Theory

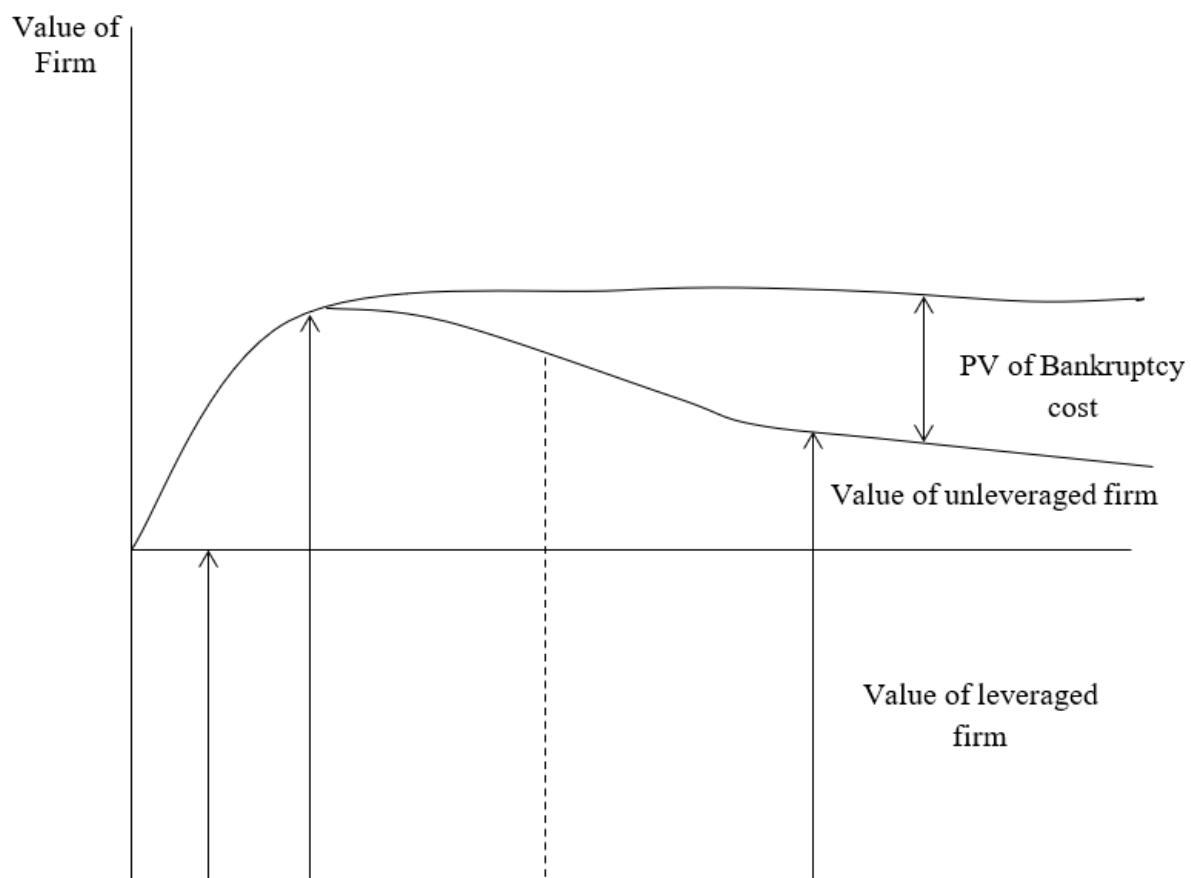
The basic concept behind the static trade-off theory is to minimize the cost of capital by employing an appropriate debt and equity financing. Firms are partly financed by debt and equity and the main benefit of debt financing is the tax benefit of that debt, while on the other hand, the disadvantage of debt financing is debt cost the interest or returns which company pays on debt which is referred as bankruptcy cost. Furthermore, the increased amount of debt also makes the investors and shareholders' financial position riskier. Hence, up to a certain limit, the cost of capital can be decreased by increasing debt.

However, after that limit, the cost of capital will start increasing. Therefore, firms usually use the mixture of debt financing and equity financing in order to minimize the average cost of capital and to increase the market value per share. The static tradeoff theory of capital structure of firms varies from sector to sector. Industries, whose firms are more tangible tend to borrow more rather using the equity because assets of these industries are collateral and considered relatively safe. By using trade off theory, Rajan & Zingales (1995) concluded that there is a positive correlation between Leverage, and profitability of a firm, whereas tangibility of assets and the size of the firm found positively correlated with firm's Leverage. Under static trade off theory, de Mesquita & Lara conducted a research and

concluded that the debt of the firm and Leverage was positively correlated in the short run whereas, their correlation was found inverse in the long run.

Trade off Models Related to Bankruptcy Costs

For Baxter (1967), the costs incurred by financial distress have been identified as non-trivial and could pay off the tax advantages of debt financing. Figure 1 shows the basic idea of this theory. The debt has advantages and disadvantages for corporation: benefits come from tax savings of debt clarified by Momi (1963) and disadvantages come from the increasing probability of bankruptcy for a company with higher debt so that the cost of failure is increased.



Trade off Models Related to Agency Costs

Jensen and Meckling (1976) based on the common knowledge that the debt had been widespread before the existence of subsidies tax on interest payments, given positive bankruptcy costs, they argue that there must be other important determinants of capital structure that have not been identified. According to the subject of capital structure, two agency conflicts will be identified: the first kind of

conflict between shareholders and managers and the second between shareholders and creditors

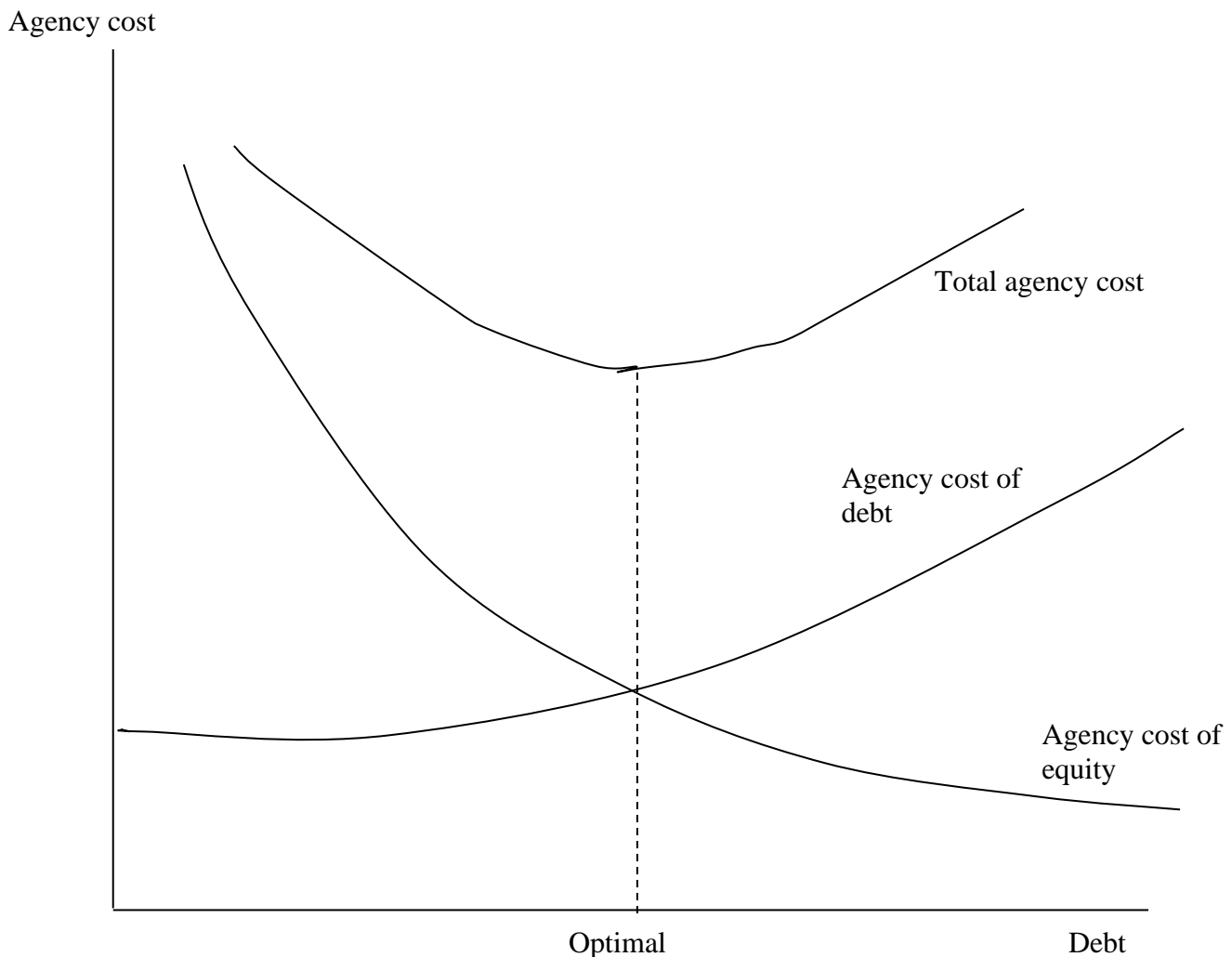
Agency Conflict between Shareholders and Managers

This kind of conflict results from the divergence of interest between shareholders and managers who do not have full ownership of the firm. In the corporation, managers do not possess all the residual power. When the owner-manager has no full ownership of the subsidiary, which means that there is an external shareholder, its objective is not to maximize the value of the firm but to maximize its own action. The less ownership the manager possesses, the more there is a severe divergence between his interests and those of shareholders. Here we can check the advantage of financing through indebtedness how and it related to the agency problem.

By increasing the debt and with the constant actions of managers, the action of the director of equity increases and the loss of conflict decreases. In addition, with more debt, companies must pay more cash as interest and free cash flow will decrease. Therefore, the liquidity available to managers to engage in some activities that affect the profit maximization will also decrease (Jensen (1986)). Besides, by the debt financing, the control of the company can be limited to a few agents in bringing together a part of capital debt financing, such as bank loans or bond sales, reducing the cost of agency management.

The Agency Relationship between Shareholders and Creditors

The second type of conflict is between creditors and shareholders for a loan agreement fact by shareholders for additional investment. When an investment yields great profits, shareholders can obtain the major part of earnings. But when the investment fails, the creditors also suffer the loss. Accordingly, shareholders may prefer to invest in very risky projects. Risky projects have for consequence the decrease of the debt value. It is the agency costs of debt financing. However, if the debt issuers can predict the behavior of supporter's equity risk, if to risk too much or not, they can adequately assess to transfer the costs again to the supporters of equity. Thus, Jensen and Meckling argue that optimal capital structure can be achieved by finding the point where the total cost of agency is minimized. It can be described in Figure 2. They made this conclusion by relaxing the Momi proposition that cost agency does not exist. An extension of agency problems was given by Myers (1977).



Empirical Review

Khalaf (2013) used a sample of 45 manufacturing companies listed on the Amman Stock Exchange were used for this study which covers a period of five (5) years from 2005-2009. Multiple regression analysis was applied on performance indicators such as Return on Asset (ROA) and Profit Margin (PM) as well as Short-term debt to Total assets (STDTA), Long term debt to Total assets (LTDTA) and Total debt to Equity (TDE) as capital structure variables. The results show that there is a negative and insignificant relationship between STDTA and LTDTA, and ROA and PM; while TDE is positively related with ROA and negatively related with PM. STDTA is significant using ROA while LTDTA is significant using PM. The study concludes that statistically, capital structure is not a major determinant of firm performance. It recommends that managers of manufacturing companies should

exercise caution while choosing the amount of debt to use in their capital structure as it affects their performance negatively.

Nirajini and Priya (2013) used data of trading companies listed in Sri Lanka from year 2006 to 2010 and used correlation and multiple regression analysis and found that there is a significant relationship between capital structure and firm performance. There are mixed results about the influence of capital structure on firm performance. Park and Jang (2013) found a positive relation between capital structure and firm performance after examining the data from 1995 to 2008 of 308 restaurant firms. Debt can efficiently be used to reduce free cash flows and to increase firm profitability, Park and Jang (2013). Capital structure does impact firm performance in a positive way, Nirajini and Priya (2013) found after analyzing financial statements of companies in Sri Lanka.

Mitani (2014) selected 799 manufacturing firms listed on the Tokyo Stock Exchange (TSE) and presented the evidence of positive correlation between leverage and market share under both types of competition, Cournot competition and Bertrand competitions. Huang and Song (2006) conducted research on Chinese firms and found negative relation between capital structure and firm performance. Ghosh (2007) came to know that leverage is inversely correlated with profitability. Smith, Chen and Anderson (2012) studied 100 companies listed on the New Zealand stock exchange (NZX), proved that leverage has a positive relation with sales growth but it also decreases return on assets (ROA). Pouraghajan et al. (2012) used 400 companies listed on the Tehran Stock Exchange (TSE) which belonged to 12 sectors and they found that debt ratio is significantly and negatively related to firm performance.

Al-Taani (2013) used short term debt to total assets (STDTA), long term debt to total assets (LTDTA) and total debt to equity (TDE) as indicators of capital structure and used return on assets (ROA) and profit margin (PM) as performance indicators to study 45 companies listed on the Amman Stock Exchange (ASE) and capital structure and firm performance were correlated negatively and insignificantly. Firms with moderate level of long term debt, as in the market, will face an increase in sales, but firms with higher levels of debt standard will not have significant growth in sales or in market. Sucuachi and Cambarihan (2016) documented the influence of profitability to the value of the companies found in Philippines. Assessing firm value using Tobin Q model and profitability using return on assets, they choose a sample of 86 well-diversified companies listed in Philippines Stock Exchange (PSE) to study. Analyzing their annual financial reports in year 2014 using multiple regression methods, it was established that profitability exhibits a positive and significant influence on the firm value. Methodology applied was okay although use of a single time period to showcase the role of profitability on firm value was wrong. Enhanced coverage would have been shown using a time series data.

Elsewhere, Sabrin, Sarita, TakdirabdSujono (2016) sought to know the impact created by firm's profitability on the value of manufacturing companies in Indonesia stock market. Secondary data was gathered from the publication in the Indonesia Stock Exchange (ISE) from year 2009 to 2014 where the many manufacturing companies were group as per sectors they serve. Return on assets (ROA), return on capital employed (ROCE), growth per earnings ratio (GPER) as metrics for the profitability and Tobin's Q s, Price per Earning Ratio (PER) and market to book value (MTBV) as measures for firm value. Sampling was done purposively by selecting all manufacturing companies that researchers deemed fit for inclusivity. Path analysis for the data revealed that profitability indeed has a role on the firm value. This could be said to be coming as result of regularity and signals sent by the act of paying dividend. The use of purposive sampling methods may be put into question due to subjectivity of the scholars that may results into a bias.

Chen and Chen (2011) researched on the influence of profitability on the firms listed in Taiwan. Return on assets was used as metric for profitability while firm value was taken to mean the market price per share at the end of the year. Taking financial data from year 2005 to 2009, 647 companies were selected for study after deleting incomplete data. Using multiple regression analysis, it was confirmed that profitability indeed has a positive effect on firm value. Together with this study also found that leverage negatively influence market value per stock, however, the researchers did not check model significance which this study will do.

Andawasatya, Indrawati and Aisjah (2017) investigated importance of profitability to the firm value through capital structure for the manufacturing companies in Indonesia stock market. Through the use of determined criteria, a total of 67 companies were selected for analysis. The results of mediating test showed that the capital structure is able to mediate the relationship between the profitability and firm size to firm value; beside that, it may not able to mediate the relationship between the growth opportunities for firm value.

Yang et al. (2010) proved that the greater is firm profitability, the more distributable earnings there are for shareholders, and thus the expected firm value will be higher. ROA shows the management efficiency of the enterprise's assets and is also a positive measure of firm value. Based on this, thus it can be hypothesis that profitability has a positive effect on firm value.

Efni (2017) sought to find the mediating effect of investment decision on corporate risk and value using companies listed in Indonesia. Data was gathered from analysis in company property and real estate sectors listed in Indonesia Stock Exchange for a period of 9 consecutive years starting 2001 and ending 2008 that have a complete financial report on the study period. This research study used descriptive analysis and inferential to prove examine the relationship between the study variables with

the five structural models. Analyzing the patterns of relationships between variables, the company's risk and investment decisions it was found that they are able to increase the value of the company, while the dividend policy and funding decisions are not able to increase the value of the company.

Literature Gap

Several related studies in the developed financial markets modeled enterprise value as the function of capital structure. The findings of these studies only reveal the relationship between capital structure and value of quoted firms measured by stock prices without examining the effect on other measures of enterprise value such as price to book value. In this study, we examined the extent to which trade off theory affect price to book value of quoted small and medium scale enterprises.

METHODOLOGY

This study used quasi-experimental research design approach for the data analysis. This approach combines theoretical consideration (a prior criterion) with the empirical observation and extracts maximum information from the available data. It enables us therefore to observe the effects of explanatory variables on the dependent variables. In order to examine the effect of trade off theory and net book value of the quoted SMEs, this study focuses on Nigerian quoted SMEs, listed on stock exchange. The chosen time period is 2009 - 2019, which is a total 10 years. According Nigeria Stock Exchange reports 2019, there are 10 quoted small and medium scale enterprises trading in the second-tier security market. Therefore, the population of this study 10 quoted small and medium scale enterprises. Our original sample consisted of 10 quoted SMEs. All non - quoted Nigerian firms, are excluded, thus including these could mislead the results. The above the sample size of the study is the existing 10 quoted Nigerian SMEs. The reason for the sample size is for easy source and reliability of required data from the annual reports submitted to the exchange.

Model Specification

In order to achieve the objectives of this study and test of the hypotheses, a functional relationship in form of multiple linear regression model consisting of dependent and independent variables will be formulated. The regression models are presented as follows;

Trade-Off Variables

$$NBV = \beta_0 + \beta_1 NTS_{it} + \beta_2 BR_{it} + \beta_3 TB_{it} + \mu_{it} \quad (1)$$

Where

NBV = Net book value of the quoted SMEs

NTS = Non-tax shield

BR = Bankruptcy Risk

TB = Tangibility

μ_{it} = Stochastic or disturbance/error term.

α_0 = Constant or intercept.

Methods of Data Analysis

The study used multiple regression defined as an equation with one dependent variable and more than one independent variables, the technique used in this study is the Ordinary Least Square (OLS) estimation technique. The test instruments in the OLS are the T-statistic and F-test which were used to test the significance of variables and the overall significance of the regression respectively. Other test instruments also employed were the Durbin Watson test which was used to test the presence or absence of auto correlation between and among the explanatory variables and the adjusted R square used to test the percentage variation of the dependent and the independent variables.

Pooled Regression

According to Brooks (2014) we started by testing pooled regression by using ordinary least squares (OLS) first as it is the simplest to do with panel data. This will lead to assumptions of no heterogeneity and no time-specificity, thus the disadvantage - the information is lost in time dimension and cross-section dimension.

Redundant Fixed Effect Test

The study used redundant fixed effect test, also called likelihood ratio test, to test whether the data can simply be pooled and estimated using a standard ordinary least squares regression model effects panel regression model can be employed (Brooks 2014). The study used exercise redundant fixed effect test by E-views, with the null hypothesis that a pooled sample can be employed.

Fixed Effects Model vs. Random Effects Model

Fixed effects models allow the intercept in the regression model to differ cross-sectionally but not over time, while all of the slope estimates are fixed both cross-sectionally and over time (Brooks, 2014). With time-fixed effects models, the average value of $y(i,t)$ is assumed to change over time but not cross-sectionally, hence the intercepts would be allowed to vary over time but be the same across entities at each given point in time (Brooks, 2014). Although fixed effects model is easy to apply, there are drawbacks. Gujarati (2004) argues that when introducing many dummy variables, the degrees of freedom would decrease. Problems with many dummy variables can also cause the possibility of multicollinearity to increase. With both entities fixed effects and time fixed effects, a model would contain both cross-sectional and time series dummies (Brooks, 2014).

Hausman Test

Since random effects model is invalid when heterogeneity exists, meaning that error term is correlated with explanatory variables, Hausman test is often used to test whether a variable can be treated as exogenous or whether that variable needs a separate structural equation. Hausman test refers to a test for whether a random effects approach to panel regression is valid or whether a fixed effects model is necessary (Brooks, 2014). We exercise Hausman test by E-views, with the null hypothesis that random effects model can be applied.

Table 1: Measurement of Variables and A-Priori Expectations

Variable	Measurement	Notation	Expected Relationship
Net book value	Log of Net Book Value = Total Cost of Asset- depreciation and other financial charges	NBV	Dependent variable
Non-tax shield	Log of depreciation to total assets	NTS	-
Business risk	Log of variation in total revenue	BR	-
Tangibility	Log of total fixed assets to total assets	TB	+

RESULTS AND DISCUSSION OF FINDINGS

Table 2: Analysis of Panel Unit Root

Method: Series: NBV	Statistic	Prob.**	Cross-sections	Obs
PANEL A: Panel Unit Root at Level				
Levin, Lin & Chu t*	0.45174	0.6743	10	80
Im, Pesaran and Shin W-stat	1.21326	0.8875	10	80
ADF - Fisher Chi-square	11.8206	0.9221	10	80
PP - Fisher Chi-square	49.5563	0.0003	10	90
Series: NTS				
Levin, Lin & Chu t*	-7.86861	0.0000	10	80
Im, Pesaran and Shin W-stat	-2.84512	0.0022	10	80
ADF - Fisher Chi-square	46.4464	0.0007	10	80
PP - Fisher Chi-square	49.1478	0.0003	10	90
Series: TB				
Levin, Lin & Chu t*	-3.17453	0.0008	10	80
Im, Pesaran and Shin W-stat	-0.55737	0.2886	10	80
ADF - Fisher Chi-square	20.8919	0.4035	10	80
PP - Fisher Chi-square	30.1578	0.0673	10	90
Series: BR				
Levin, Lin & Chu t*	-7.31890	0.0000	10	80
Im, Pesaran and Shin W-stat	-2.42377	0.0077	10	80
ADF - Fisher Chi-square	42.7962	0.0022	10	80
PP - Fisher Chi-square	56.3438	0.0000	10	90
PANEL A: Panel Unit Root Difference Level				
Series: D(NBV,2)				
Levin, Lin & Chu t*	-2.57458	0.0000	10	60

Im, Pesaran and Shin W-stat	-1.73490	0.0014	10	60
ADF - Fisher Chi-square	34.5319	0.0000	10	60
PP - Fisher Chi-square	113.087	0.0000	10	70
Series: D(NTS,2)				
Levin, Lin & Chu t*	1.97050	0.9756	10	60
Im, Pesaran and Shin W-stat	-3.32612	0.0004	10	60
ADF - Fisher Chi-square	48.9926	0.0003	10	60
PP - Fisher Chi-square	105.424	0.0000	10	70
Series: D(TB,2)				
Levin, Lin & Chu t*	-5.62115	0.0000	10	60
Im, Pesaran and Shin W-stat	-3.00476	0.0013	10	60
ADF - Fisher Chi-square	47.7969	0.0005	10	60
PP - Fisher Chi-square	125.742	0.0000	10	70
Series: D(BR)				
Levin, Lin & Chu t*	-5.78984	0.0000	10	70
Im, Pesaran and Shin W-stat	-3.03190	0.0012	10	70
ADF - Fisher Chi-square	50.3840	0.0002	10	70
PP - Fisher Chi-square	96.1177	0.0000	10	80

Source: Computed by Researchers from E-view 9.0

The study accepted the alternate hypothesis and rejected the null hypothesis for the following reasons. First and foremost, the output file of the results indicates that all the variables are the stationary first difference. This has an implication of the rejection of the null hypothesis and acceptance of the alternate hypothesis because of no significant trend yet availability of stationary data.

Table 3: Presentation of Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
PANEL A: FIXED EFFECT MODEL								
BR	2.494940	1.537893	1.622310	0.1084	2.281162	1.518529	1.502218	0.1363
NTS	0.775561	0.957454	0.810024	0.4201	0.792879	0.956990	0.828513	0.4094
TB	-2.646786	1.036092	-2.554586	0.0124	-2.446450	1.021974	-2.393846	0.0186
C	7.152587	2.678511	2.670360	0.0090	7.128927	2.713952	2.626769	0.0100
R ²	0.951599				0.771117			
Adj R ²	0.944923				0.542089			
F-Stat	142.5399				2.449964			
F-prob	0.000000				0.000212			
DW	1.184032				1.106203			
Cross-section random effects test comparisons								
BR	2.494940	2.281162	0.059185	0.3795				
NTS	0.775561	0.792879	0.000890	0.5616				
TB	-2.646786	-2.446450	0.029054	0.2399				
Correlated Random Effects - Hausman Test								
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.				

Table 4: Presentation of Co-integration test

	<u>Statistic</u>	<u>Prob.</u>	<u>Weighted Statistic</u>	<u>Prob.</u>	
Panel v-Statistic	-3.698428	0.0003	-1.465776	0.0286	
Panel rho-Statistic	2.277725	0.0086	1.964080	0.0052	
Panel PP-Statistic	0.270709	0.6067	-0.334493	0.3690	
Panel ADF-Statistic	1.384921	0.0170	1.051219	0.8534	
	<u>Statistic</u>	<u>Prob.</u>			
Group rho-Statistic	3.320440	0.0006			
Group PP-Statistic	-0.506672	0.3062			
Group ADF-Statistic	1.082632	0.8605			
Cross section specific results					
Phillips-Peron results (non-parametric)					
Cross ID	AR(1)	Variance	HAC	Bandwidth	Obs
Afrik Pharmacuetical Plc	0.259	0.010504	0.009208	1.00	9
Anino International Plc	-0.054	0.000962	0.000962	0.00	9
Capital Oil Plc	0.186	0.031185	0.031185	0.00	9
Chellarams Plc	-0.031	0.011375	0.007027	7.00	9
Juli Plc	0.191	0.000354	0.000354	0.00	9
Mc Nichols Plc	-0.453	0.002742	0.001904	3.00	9
Omoluabi Mortgage Bank	0.169	0.063106	0.063106	0.00	9
Rak Unity Pet, Coy, Plc	0.440	0.026801	0.025337	2.00	9
Smart Products Nig. Plc	0.280	0.258199	0.206372	3.00	9
The Initiates Plc	0.274	0.006991	0.006991	0.00	9
Augmented Dickey-Fuller results (parametric)					
Cross ID	AR(1)	Variance	Lag	Max lag	Obs
Afrik Pharmacuetical Plc	0.133	0.010496	1	--	8
Anino International Plc	-0.109	0.000292	1	--	8
Capital Oil Plc	0.148	0.031714	1	--	8
Chellarams Plc	-0.856	0.004949	1	--	8
Juli Plc	0.416	0.000328	1	--	8
Mc Nichols Plc	-0.480	0.003074	1	--	8
Omoluabi Mortgage Bank	0.094	0.066977	1	--	8
Rak Unity Pet, Coy, Plc	0.315	0.027721	1	--	8
Smart Products Nig. Plc	0.125	0.277510	1	--	8
The Initiates Plc	0.163	0.007212	1	--	8

Source: Computed by Researchers from E-view 9.0

In the seven tests, there are eleven outcomes. And we shall consider the entire outcome. In this outcome result shows that probability value is more than 5%, meaning that we cannot reject the null hypothesis and six results shows that probability value is less than 5% meaning that we can reject the null hypothesis. Our null hypothesis is, there is co-integration and the alternative hypothesis is there is co-integration. Here out of eleven corresponding probabilities, 10 can reject the null hypothesis meaning that majority can reject the null hypothesis. So we can take the decision that we should reject null hypothesis and can accept the alternative hypothesis meaning that our independent variables such as (trade-off variables) are co-integrated, meaning that they have long run associations. From the above results, we test for causality using Granger causality test.

Table 5: Presentation of Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
BR does not Granger Cause NBV	80	0.09001	0.9140
NBV does not Granger Cause BR		1.38362	0.2570
NTS does not Granger Cause NBV	80	0.01763	0.9825
NBV does not Granger Cause NTS		0.71551	0.4923
TB does not Granger Cause NBV	80	0.00575	0.9943
NBV does not Granger Cause TB		0.06103	0.9408

Source: Computed by Researchers from E-view 9.0

As summarized in Table 5 there is no causal relationship found between trade off variables and net book value. The absence of causality between trade off variables and net book value of the quoted SMEs contradict our a-priori expectation.

DISCUSSION OF FINDINGS

The estimated multiple regression results on the relationship between trade off variables and net book value of the quoted SMEs found that business risk and non-tax shield have positive and significant relationship with net book value of the quoted firms. The estimated coefficient found that a unit increase in business risk and non-tax shield lead to 2.3 percent and 0.79 percent increase on the net book value of the quoted firms. From the measurement and a-priori expectations, the positive relationship between business risk, non-tax shield and net book value of the firms contradict our a-priori expectation as we expected negative relationship between business risk, non-tax shield and net book value of the quoted SMEs.

The positive relationship can also be traced to measures adopted by the firms to manage business risk and management incentive for tax shield. The positive findings contradict the findings of De Jong, Kabir and Nguyen (2008) found a negative relationship between business risk and leverage. De Jong (2002) stated that organizations with higher business risk obtain less debt. Therefore, in organizations with higher business risk is the leverage of an organization lower. De Jong (2002) found empirical evidence for this statement for large Dutch listed firms.

Additionally, the empirical model found that tangibility has negative and significant relationship with net book value of the quoted firms. The regression coefficient found that with a unit increase in the variable, net book value of the firms reduces by 2.44 percent on net book value of the SMEs. The negative relationship between tangibility and net book value contradicts our a-priori expectations. The negative effect of tangibility on net book value can be traced to assets composition of the firms. The negative effect of tangibility contradict the findings of Delcours (2007) found a positive relationship between asset tangibility and leverage, just as Titman and Wessels (1988). De Jong (2002) found also a positive relationship between tangibility and leverage for large Dutch listed firms while the negative

effect on non-tax shield of De Jong (2002) investigated Dutch listed firms and found that the leverage of Dutch organizations is determined by the non-debt tax shield.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The result from found that 54.2 percent, percent variations in the net book value of the quoted SMEs, the coefficient of business risk has a positive coefficient and not significant to influence net book value of the quoted SMEs, non-tax shield have positive and not significant to impact on net book value of the quoted entrepreneurial firms while the tangibility have negative and significant to impact on net book value of the quoted SMEs. From the findings, the study concludes that there is no significant relationship between non-tax shield and net book value of quoted SMEs in Nigeria. That there is no significant relationship between business risk and net book value of SMEs value in Nigeria. That there is significant relationship between tangibility and net book value of quoted SMEs in Nigeria.

Recommendations

1. Though there is high positive impact of debt capital on the SMEs. Hence, the firms should set a target debt level that will maximize value and should strive not to go beyond such levels in order to maximize their value as reflected in the high positive impact of debt capital on the SMEs.
2. Nigerian firms should take advantage of debt's tax deductibility nature as a debt capital while starting up which will boost their accounting performance and by extension, their market value. This will help in solving some agency conflicts because managers will sit up to recoup investments in order to satisfy their bondholders in the same vein enjoy interest tax deductions which increases improves accounting performance.
3. Management of the SMEs should compare the marginal benefit of using long-term-debt to the marginal costs of long-term-debt before concluding on using it in financing their operations. This is because as shown by this work, long-term-debt impact positively on firm's value unlike equity capital.

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