# THE IMPACT OF DEBT FINANCING ON FINANCIAL PERFORMANCE OF MANUFACTURING FIRMS IN NIGERIA

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# ABSTRACT

Debt financing decision is among the key financial decisions that are taken by firms since debt financing has an impact on the financial performance. Leverage financing provides the borrower with an opportunity to finance an investment on a short term source at the same time spreading the cost of capital over time so as to meet the affordability and budgetary constraints. This study set out to determine impact of debt financing on the financial performance of manufacturing firms in Western Nigeria. The study applied a descriptive research design and carried out a census of the 61 manufacturing firms in Western Nigeria. The study used secondary data which was collected using a data collection form. The data collection form obtained data for a period of three years from 2014 to 2016. Multiple linear regression was employed to ascertain the association linking dependent variables and independent variables. The results found that the relationship between debt financing and financial performance of manufacturing firms in was positive and insignificant and that the relationship between revenue growth and financial performance of manufacturing firms in Western Nigeria was positive and insignificant. The study also found that the relationship between administrative efficiency and financial performance of manufacturing firms in Western Nigeria was negative and significant while the relationship between operational efficiency and financial performance of manufacturing firms in Western Nigeria was negative and significant. The study concluded that debt financing does not affect the financial performance of manufacturing firms in Western Nigeria. The study also concluded that administrative efficiency and operational efficiency significantly affect the financial performance of manufacturing firms in Western Nigeria.

# CHAPTER ONE

# INTRODUCTION

# Background of the Study

# Manufacturing firms are considered important in both developed and developing countries. They are producer of goods and services which help to increase economic growth and contribute significantly to employment creation. Although they play a crucial role in economic growth and employment and their operations are often crippled by lack of adequate financing from financial institutions. The main purpose of this research is to examine the impact of debt financing on the growth of manufacturing firms in Nigeria.

# A manufacturing firm can finance its operations either through equity or debt. Debt financing is cash borrowed from a lender at a fixed rate of interest and with a predetermined maturity date. The principal must be paid back in full by the maturity date, but periodic repayments of principal may be part of the loan arrangement. Debt may take the form of a loan or the sale of bonds; the form itself does not change the principle of the transaction: the lender retains a right to the money lent and may demand it back under conditions specified in the borrowing arrangement. Lending to a manufacturing firm is thus at least in theory safer, but the amount the lender can realize in return is fixed to the principal and to the interest charged. Investment is more risky, but if the manufacturing company is very successful, the upward potential for the investor may be very attractive; the downside is total loss of the investment. Manufacturing firms can obtain debt financing from a number of different sources. Private sources of debt financing include friends and relatives, banks, credit unions, consumer finance companies, commercial finance companies, trade credit, insurance companies, factor companies, and leasing companies. Public sources of debt financing include a number of loan programs provided by the state and federal governments to support manufacturing firms.

# Manufacturing firms need capital in their operations. They can finance their operations using internal funds, debt and equity. Debt finance is raised by borrowing from financial institutions. A lot of research has been carried out focusing on the impact of debt financing on growth of firms. The results from these studies are inconsistent. Cecchetti et al. (2011) studied the impacts of debt on firms and concluded that moderate debt level improves welfare and enhances growth but high levels can lead to a decline in growth of the firm. Rainhart and Rogoff (2009) argued that when debt impacted positively to the growth of a firm only when it is within certain levels. When the ratio goes beyond certain levels financial crisis is very likely. The argument is also supported by Stern Stewart and Company which argues that a high level of debt increases the probability of a firm facing financial distress. Over borrowing can lead to bankruptcy and financial ruin (Ceccetti et al., 2011). High levels of debt will constrain the firm from undertaking project that are likely to be profitable because of the inability to attract more debt from financial institutions.

# The nature of debt is an important determinant of the growth of a manufacturing firm. Jaramillo and Schiantarelli (1996) stated that the availability of long-term finance allows manufacturing firms to improve their productivity. If a firm has access to long-term debt finance, it can invest in new capital and equipment which helps to increase productivity. According to Marcouse (2003), by investing in more modern and sophisticated machines, productivity per worker increases. Ventire et al. (2004) adds that modern know-how fuels greater output per unit of effort. The manufacturing firm can also invest in new technologies which are more productive. The inability to access long-term finance can force manufacturing firms to use short-term debt to finance long-term projects. This will create mismatches of assets and liabilities and depletes working capital. Depletion of working capital will negatively affect firm operations. It is crucial that the primary source of loan repayments should be cash flows from the project.

# 1.1.1 Debt Financing

Borrowing of loans from other banks, companies or financial institutions so as to support the operations of a business is referred to as debt financing. An interest expense is paid before the maturity period of the debt, with the loan principal being repaid at a future time (Harelimana, 2017). Debt financing is a financing option that is structured to improve the owners’ rate of return on investments by producing a rate of return that is higher than the overall cost of the borrowed funds (Saad et al., 2015). Leverage financing entails the purchase of interest bearing instruments that are protected by the asset-based

security and they have term structures (Githaigo & Kabiru, 2015). Debt financing comprises of the main sources of external funding for most business firms. It provides a mechanism of filling financing deficits for firms that have insufficient financial resources (Onchong’a, Muturi & Atambo, 2016).

The core of debt is that the borrower will have to repay the borrowed funds which are accompanied with service charges such as loan origination fees and interest charges (Harelimana, 2017). Debt financing offers a means of satisfying financing deficits of businesses that have insufficient internal resources to finance their operational activities and investments (Onchong’a, Muturi & Atambo, 2016). In the capital structure of a company, debt capital entails the long-term bond that the company uses during the financing of its investment decisions since the company has a period of repaying the loan amount, whereas the payment interest is only limited with the present time. The healthiness of a firm’s balance sheet is a key determinant of the cost of debt capital in the structure of capital of a firm (Lambe, 2014). Leverage financing can lower the firm’s costs of financing due to the availability of liabilities tax shields task and thus improving the value of the firm (Xu, Ou & Chen, 2016).

Leverage financing choice carry the form of trade credit from bank loans and other financial institutions, suppliers, loans from individuals and the governments (Obuya, 2017). Though debt financing is less costly because of the tax exemption, it subjects firms to some constraints as well as default risk of repaying the principle and interest amount (Liaqat et al., 2017). The measure of debt in this study was done using debt ratios that compare the firm's total debt to its total asset. A low percentage will mean that the firm is less reliant on debt i.e., funds obtained from others or that is owed to others. The lesser the percentage of debt ratio, the lower the firm is using debt finance and the stronger its equity state is (Makanga, 2015). Debt ratio (DR) indicates the fraction of money that financed the total assets by use of an outside source of funds. A higher ratio shows that most of the firm’s assets are offered by creditors relative to the owners (Harelimana, 2017).

# Financial Performance

This implies the level in which the financial goals of a firm are being or have been attained. Financial performance is a method of ascertaining impacts of company's policies and the operations in a monetary language (Harelimana, 2017). This shows the situation of an organization at a moment in time as presented in the balance sheet or it may show a series of actions over a stipulated time period as it is revealed by the statement of comprehensive income (Makanga, 2015). Financial performance is an indicator of the firm's general financial condition in a stipulated time period and can also be employed to contrast related companies in the same business or to contrast sectors or businesses in aggregate (Harelimana, 2017).

Financial performance gives a proper gauge on the use of a firms’ resources for maximization of wealth and profits. The fiscal financial functions are conducted occasionally from the accounts office, balance sheets or the profit and loss statements of the firms so as to evaluate the degree of success in the business (Obuya, 2017). Financial performance is a biased gauge of how impactively a firm can make good exploitation of its assets from its key business objective conduct and the successive revenue generation (Ikapel & Kajirwa, 2017). To appraise a firm’s performance, business entities normally apply financial ratios since they provide a simplified description of the entities current financial state in contrast to previous accounting period and they provides clues on how a firm’s management can improve performance (Tauseef, Lohano & Khan, 2013).

Financial performance can be measured in many different ways, but all these ways should be aggregated. The traditional accounting Key Performance Indicators (KPIs) that include Operating Profit margin, Sales growth, Return on Assets, Economic Value Added or Earnings before Interest and Tax are often used in the calculation of financial performance (Abshir & Nigib, 2016). However, the traditional performance measurement approach by objective rational model may not ably serve the measurement of performance in manufacturing firms. Performance measurement in firms should be by the feature of academic performance and performance of the management based on sub- dimensions, which include quality of education, finance and human resources. To determine the financial performance of public firms this study will use the Surplus or Deficit as % of total income ratio.

# Statement of Problem

For a manufacturing firm to grow, there need for the firm to operate efficiently in production. This can be achieved when the firm has enough funds for investment in productive new technologies. Manufacturing firm can invest using internal funds, debt or equity. Nigerian manufacturing firms emerged from a severe economic-downturn which resulted in dilapidated infrastructure. There is need for massive investment in machinery and latest technologies in order to raise the operations of the manufacturing firms. Many manufacturing companies are closing down operations although financial institutions have been financing them. However, the examiner seeks to examine the impact of debt financing on the growth of manufacturing firms in Nigeria.

**1.3 Objectives of the study**

The following are the objectives of this study:

1. To examine the impact of debt financing on the growth of manufacturing firms in Nigeria.

2. To identify the sources of Finance for manufacturing firms in Nigeria.

3. To ascertain the level of growth in the Nigerian manufacturing firms.

**1.4 Research Questions**

1. What is the impact of debt financing on the growth of manufacturing firms in Nigeria?

2. What are the sources of Finance for manufacturing firms in Nigeria?

3. What is the level of growth in the Nigerian manufacturing firms?

**1.5 Hypothesis**

HO: Debt financing has no impact on the growth of manufacturing firms in Nigeria.

HA: Debt financing has impact on the growth of manufacturing firms in Nigeria.

**1.6 Significance of the study**

The following are the significance of this study:

1. The results from this study will be a useful guide for manufacturing companies in Nigeria on debt management using the information obtained from the relationship between debt financing and the growth of manufacturing companies in Nigeria.

2. This research will also serve as a resource base to other scholars and researchers interested in carrying out further research in this field subsequently, if applied will go to an extent to provide new explanation to the topic.

**1.7 Scope of the study**

This study on the impact of debt financing on the growth of manufacturing firms in Nigeria will cover all the sources of funds e.g. loans to the manufacturing firms in Nigeria. It will also cover the impact of debt financing on the growth of manufacturing firms in Western Nigeria.

**1.8 Limitation of study**

Financial constraint- Insufficient fund tends to impede the efficiency of the researcher in sourcing for the relevant materials, literature or information and in the process of data collection (internet, questionnaire and interview).

Time constraint- The researcher will simultaneously engage in this study with other academic work. This consequently will cut down on the time devoted for the research work.

**1.9 Organization of Study**

The study is divided into five chapters. Chapter one deals with the study’s introduction and gives a background to the study. Chapter two reviews related and relevant literature. The chapter three gives the research methodology while the chapter four gives the study’s analysis and interpretation of data. The study concludes with chapter five which deals on the summary, conclusion and recommendation.

# CHAPTRER TWO

# LITERATURE REVIEW

# Introduction

This chapter reviews literature relating to impacts of debt financing and how it affects financial performance. Section 2.2 discusses important theories which show the impact of debts on firm’s financial performance. Section 2.3 discusses the determinants of financial performance. Empirical literature in section 2.4 discusses both international and local studies that have been done on impact of debt financing; this section will also bring out the research gap that exists. Lastly the chapter’s summary is provided in section 2.5.

# Theoretical Review

Theoretical literature provides a framework upon which the theories relevant to the study were based on. The critical theories which show the impact of leverage on firm profitability are:

# Trade-off Theory

Myers (1984) noted trade off theory as when firms strike equilibrium between tax gains from use of leverage against deadweight insolvency costs. As indicated by Myers (1984) the vital inferences of this theory are that debt shows goal modifications such that any deviations are gradually expelled. (Frank & Goyal, 2007) noted that there are in fact pros and cons of utilizing leverage. The pros being tax reduction while cons being the insolvency costs, expenses associated with leverage and loss of expected financing flexibility.

Modigliani and Miller, MM (1963), suggest that the importance of leverage financing diminishes with an individual’s tax obligation on their earnings. The Trade-off hypothesis expresses that there are pros and cons of using leverage, the pros being the tax breaks associated with leverage and the cons being the cost of financing, for example, the expenses of money related trouble incorporating liquidation costs related with the obligation and non-liquidation costs (e.g. disadvantageous payout demands by sellers, debt holder/investor clashes, and so on). Makanga (2015) noted that for a firm to achieve optimization in its value, it should pay attention on this trade-off when determining the financing mix between debt and equity as debt increases there’s a decrease in the marginal benefit of additional increases in debt, while the marginal cost increases. (Makanga, 2015)

According to Kraus and Litzenberger (1973) as cited to by Frank and Goyal (2007), a more classical explanation of the Trade-off hypothesis is that ideal use of debt mirrors as an exchange off between tax gain of a debt and the dead weight insolvency expenses. As per Myers (1984), for a firm to take into consideration the trade off hypothesis it sets an objective debt-to-value proportion and afterwards continuously moves towards accomplishing the objective. The objective is attained by striking an equilibrium between the tax gain from debt and the dead weight insolvency expenses. (Frank & Goyal, 2007)

A firm which has employed debt will experience financial distress when it is not able to meet the requirements of its debt holders. When the levered firm continually fails in meeting the debt holders’ obligations the firm can end up being insolvent. Financial distress costs or bankruptcy costs (direct or indirect) usually considered as the cost of debt is the primary portion of the Trade-off theory of the firm’s composition of capital.

As the term trade-off would mean, decision makers need to evaluate between the pros and cons of debt and make choice that best suits the firm. Debt would therefore have both good and bad impacts on the financial performance of firms. Trade-off theory therefore preludes that a firm would consider debt if the tax benefit is higher than the costs associated with debt financing. This may not necessarily be the case. Researches on trade-off theory however, conclude mixed results. Titman and Wessels (1988), Rajan and Zingales (1995), and Fama and French (2002) affirm that organizations with higher productivity have a tendency to acquire less leverage which is conflicting with the trade off proposal that better performing firms ought to get more leverage to lower tax obligations. Graham (2000) while assessing pros and cons of debt observed that the considerably large organizations with minimal financial strain expectations employ leverage moderately.

# Pecking Order Theory

Myers (1984) calls the hypothesis that, when determining the capital structure, firms employ a pecking order due to adverse selection, in which case, the firm initially looks at the retained profits, afterwards to leverage, and just in extraordinary conditions to equity when financing their operations. As pointed out by Myers (1984) main implications of the pecking order hypothesis is the strict arrangement of financing. Frank and Goyal, (2007) noticed that firms have a set order of sources of capital used to fund their operations. Accordingly, the pecking order hypothesis proposes that organizations are inclined to employ in house resources compared to outsourced resources, thus will favor retained earnings to obligation, near term obligation to long term obligation and obligation to equity. Firms prefer leverage over equity as they have a more conservative view with regards to dividends and utilize obligation financing to fully realize firm value.

Firms are said to have used pecking order when they have a partial of inner financing to obtaining outside financing and where leverage is utilized, leverage to equity. This preference was driven with regards to the advanced assortment by Myers and Majluf (1984). Company's financial results are one of the significant items influencing the choice of a company's capital structure. Firstly, Myers and Majluf (1984) contend that, organizations with higher profitability can majorly fund cash flow needs from held back profits, this would lessen the need to acquire outside financing. This consequently predicts a reverse relationship between firm's performance and use of debt.

This theory also presupposes that external stakeholders will attempt to establish the firm's value or financial performance, which they are not able to fully monitor from the financing decisions made by the firm. Consequently, a company's capital structure decision will act as flagging factor, whereby the decision makers employ more leverage as a pointer of company's high quality. This is a dependable pointer since well performing firms can secure more leverage, since they are viewed as less prone to default risk on leverage overhauling expenses that grow after leverage issuance (Leland and Pyle, 1977; Ross, 1977; Myers and Majluf, 1984). We will in this way anticipate a positive relationship between the company's outputs on the measure of use. In this manner, the pecking order hypothesis is uncertain about the direction of the correlation between firm's financial output and capital structure.

# Modigliani and Miller Irrelevance Theory

Modigliani and Miller (1958) developed this theory which asserts when the market conditions are perfect, the value of firm’s stocks is not determined by financial structure decisions. The MM financial structure irrelevance theory presupposes that the capital mix is unrelated to the value of the firm (Frank & Goyal, 2007). The theory makes an assumption that both the investors and the individual companies have the same information regarding the market conditions. The assumption made in the model is there exists perfect information concerning the performance of the firm (Liaqat et al., 2017).

The assumption in the MM model is that there exists perfect information concerning the performance of the firm. When there exists insider information in a company, the market is no longer perfect hence the model cannot be applicable (Frank & Goyal, 2007). The MM theory is however against the notion of relating the valuation of a firm with financing structure. The model further reveals profitability as the only factor that can be used in determining the valuation of a firm as well as the risks associated with it and not the proportion of its financing (Liaqat et al., 2017).

# Determinants of Financial Performance in Manufacturing firms

# Debt Financing

Leverage financing has both merits and demerits on the growth and the strategic investments of corporations. The advantages of leverage financing may include the tax deductibility of interest charge and the reduction of problems associated with free cash flows. The costs of leverage financing will entail the agency conflicts between the stock- holders and the debt-holders and also the potential bankruptcy costs (Lambe, 2014).

The use of leverage in a companies’ capital structure has its portion of merits such as the benefits accrued from debt tax shield impact and financial debt. The firm pays interest amounts to the creditors of the funds; which is an exemption from the corporate income tax, whereas the dividends paid to the share-holders are deducted from the earnings after corporate income tax (Kajirwa, 2015). Businesses use borrowed funds in their operations, since it provides them with the potential of increasing the volume of operations and improve the average returns on equity capital. The use of leverage shall have this impact if only when the rate of return on the investment remains higher than the rate of return on the leverage (Githaigo & Kabiru, 2015).

# Administrative Efficiency

Administrative competence is a gauge that is achieved by communicating the resulting impacts to the efforts applied. Administrative competence implies the optimization of resources, the ways and instruments accessible with the aim of reaching a desired outcome. Administrative efficiency also refers to the capability of a firm to produce or attain the preferred end results with the minimum expenditure of time, energy, money, materiel, personnel among others (Mihaiu, Opreana & Cristescu, 2010).

Administrative efficiency may be attained under the situations of maximizing the outcome of a doing in connection to the resources consumed, and this is measured by comparing the impacts achieved to their efforts. When measuring the impactiveness of a firm, one requires estimation of costs, resources and efforts used and comparing to estimates of outputs. The efficiency of an entity is given by the input output ratios (Mihaiu, Opreana & Cristescu, 2010).

# Management Efficiency

Management efficiency shows the management healthiness of an institution. Management act as a safeguard of operating the institution in a manner that is decent and smooth and this is known as skillful management, when it regulates the costs and increases the overall productivity, eventually attaining higher returns (Ahsan, 2016). Management efficiency is the ability of a firm to restrain the undesirable traits and maximize on resource capabilities with an aim of delivering products and services of quality to their customers (Ikapel & Kajirwa, 2017).

Comparatively, more competent organizations will have tendency of maintaining more levels of stability in terms of operating performance and outputs as compared to other firms. The presence of a sound management is among the vital factors laid behind most firms’ improved performance. The determinants of an efficient management, though they are mainly suitable to individual firms, cannot be simply aggregated across the segment. The efficiency of management is a key factor of corporate financial management; this is due to the fact that it directly influences the firm’s profitability (Ikapel & Kajirwa, 2017).

# Revenue Growth

Revenue growth is measure of monetary execution increase in a firm’s revenues which speaks to an expansion in the firm's incomes over a given timeframe. Delmar, Davidson and Gartner (2003) as cited by Akinyi, indicated that if there is one measure of firm execution that could be put into use then it must be income expansion (Akinyi, 2012). A growth over a given time in the monetary gains of a firm is a good measure of performance as it signifies that a firm is constantly making improvements.

The main goal of firms is to maximize their revenues and that improvement in sales volume will entirely continue to grow, even at times of low profits, in both the short term and long term. The growth and profitability dynamics of a firm are based upon the theory of the growth of the firm. Revenue and income increase is anticipated to have impact on the market value and the rate of return measures and in both the actual and simulated industries (Gabrijelcic, Herman & Lenarcic, 2016).

# Empirical Review

In Pakistan, Liaqat et al., (2017) examined the impacts of the composition of capital on the financial performance of firms in the energy and fuel sector of within the country by use of secondary data from the year of 2006 up to 2014. The study adopted the multiple regression model which established that there was a considerable negative impact of structure of capital on the return on equity and return on assets of firms in the sector of fuel & energy in Pakistan, whereas EPS was merely determined by the capital structure indicators, the size only has considerable positive behavior on EPS.

Koskei (2017) examined the association between long-term debt ratio, debt to asset ratio, debt to equity ratio and the financial performance of the private sugar manufacturing companies in Nigeria. The study carried out a survey of all six private sugar companies in Nigeria and relied on secondary data. The study revealed that debt to equity ratio has considerable impacts on the financial performance, debt asset ratio has no considerable impact on financial performance and long-term debt equity ratio has considerable impacts on financial performance and the moderating factor of a firm’s size have no impact on the financial performance of firms.

Adesina, Nwidobie and Adesina (2015) studied the impact of capital composition on the financial performance of the quoted banks in Nigeria. The authors sampled 10 Nigerian commercial banks and collected data for time period of eight years from year 2005 up to 2012. Using the ordinary least square regression examination of the secondary data collected, the study found that the structure of capital had a considerable positive connection with the financial performance of the quoted banks in Nigeria. This study suggested that the management of quoted banks in that country should from time to time make use of equity and debt funds when financing their operations so as to improve their earnings.

Saad et al. (2015) studied the association between the source of funds via equity and leverage, and the performance of SMEs in Malaysia. The study sampled 177 Malaysian SMEs involving manufacturing and agriculture sectors. Using the ordinary least squares method, the study revealed that equity financing has considerably positive connection with the performance of businesses, while debt financing was insignificant. The study concluded that SMEs in Malaysia employ equity financing as a source of business capital, dur to its potential in affecting the performance of business.

Makanga (2015) studied the impacts of debt financing on financial performance of the firms listed at the NSE. The study used a quantitative research design with analysis being done using linear regression models using SPSS. The study revealed that short-term debt was negatively connected to return on assets but not significantly. The study also found that long-term debt was also negatively correlated to return on assets but less significantly than short term debt and found a weak negative connection between return on assets and total debt.

In Nigeria, Onchong’a, Muturi and Atambo (2016) examined the impacts of leverage financing in financial performance of selected firms in the country. The study targeted a population of 60 firms with debt in their capital structure in Nigeria Security Exchange, and utilized secondary data from audited financial reports of these firms between periods of 2009-2012. Using regression analysis coefficient on the debt impacts on return on asset the study revealed that a unit increase of short term debt reduces return on asset. However, the study found a unit increase in short term debt however will reduce the profit margin ratio.

In Nigeria, Lambe (2014) examined the functions of debt fund, the impacts of capital mix and parameters that affected a company’s capital selection and the general impact of the company’s value in the market. This study used both primary data which was obtained through the use questionnaires and secondary data collected from the periodic publications and the fact book of the Nigerian Stock Exchange. Findings of the study established that the value in the market for a company is positive and considerably affected by its selection of financial debt.

Dube (2013) completed a research study on the impact of debt on the profitability of SMEs in Zimbabwe, and noted that productivity in a firm had a positive connection to the level of leverage use as well as variations in investments. The study further established that investment expenditure was a vital deciding factor of efficiency in SMEs operations. The level of leverage must be reasonable to evade high costs of leverage which can deter SMEs from employing retained earnings.

In Nigeria, Kajirwa (2015) studied if the use of debt funds in a firms’ capital composition had an impact on performance of firms. This study carried out an assessment of the commercial banks listed on NSE in the country and a targeted population that comprised of 11 commercial banks was put into consideration. The study employed correlation and regression models. The study revealed that leverage negatively affected the firms’ performance although not statistically considerable. The study concluded that the use of leverage in a firms’ capital composition has negative impacts on the performance of commercial banks which is not statistically considerable.

Gabrijelcic, Herman and Lenarcic (2016) studied the impacts of financial debts and the foreign funding on a firms’ performance prior to and in times of the current crisis. The study used a large panel of firms in Slovenia. The study found a considerable negative impact of debt on the firms’ performance and also that firms with some foreign leverage performed healthier averagely than those firms that rely entirely on domestic financing. Concurrently, these firms suffered a huge decline in their performance if the total debt was raised.

# Conceptual Framework

A conceptual framework is a tool for research that is aimed at helping the researcher develop knowledge and adequate understanding of the condition under study and to correspond it. The conceptual framework for this study was made up of debt financing as the independent variable while financial performance was the dependent variable. Revenue growth, administrative efficiency and management efficiency were employed as the control variables. Figure 2.1 shows the conceptual model

**Control variables**

* Administrative efficiency
* Management efficiency
* Revenue growth

**Dependent variable**

* Financial performance

**Independent variable**

* Debt Financing

## Figure 2.1 Conceptual Model

The control variables were included in the regression equation as additional variables and analysed together with the independent variable.

# Summary of Literature Review

This study adds to the existing empirical literature by presenting proof on the impact of debt financing on financial performance of manufacturing firms in Western Nigeria. To improve on the already available literature, this study includes detailed analysis of data sets of manufacturing firms, and especially those in the SME category. Additionally, to improve the accuracy of estimation, this study looks at the behavior of manufacturing firms in line with the years of operation. In this paper, special focus is on the impact debt has on financial performance of manufacturing firms in Western Nigeria. Two vital theories exist which bring out the impact of leverage on firm’s profitability, namely the Pecking order theory and the Trade-off theory and.

A review of some empirical studies revealed the absence of a unified theory. Jensen &Meckling (1976) and Myers (1977) discovered that the financial performance of leveraged companies may diminish because the conflict of interest that may exist between the equity-holders and debt holders. Conversely, Fama and French (1998) found that no positive impact exists on the financial performance when using debt financing since there would be no tax benefit associated with use of leverage triggered by agency issues after regulating for investment, earning, dividend, research and development. Due to lack of common agreement on what constitutes an optimal debt structure as evidenced in some empirical studies, it is significant to further explore the impacts of leverage composition on the firm’s performance level.

In addition, past research in the area of debt financing has focused on studying firms in developed countries and less common study of firms in the developing nations. The study is aimed at exploring further on the existing research and thus advance our knowledge on decision making in debt financing particularly in the case of Nigerian firms.

# CHAPTER THREE

# RESEARCH METHODOLOGY

# 3.1 Introduction

This section shows the methodologies to be employed in this study as follows: Section outlines the research methodology of the study. Section 3.2 constitutes the research design and section 3.3 explains the population while Section 3.4 discusses the methods of data collection and research procedures and lastly section 3.5 discusses data analysis.

# Research Design

A research design aids in controlling the exploratory, extraneous and error variables of a specific research issue being explored. Ditsa (2004) cites to Kerlinger (1986), who noted that a research design is a technique and a formation of examination that is used to discover solutions to questions of the research. Research design enables a researcher too validly, objectively, accurately and as economically possible obtain solutions to research questions (Ditsa, 2004). The study applied a descriptive research design that is concerned with determining who, what, where and how much an occurrence, which was the study objective (Babbie, 1998). As per Kothari (2004), a descriptive study incorporates having a plan, organize, collect and analyze data so as to present information being sought.

# Population of the Study

This study was confined to private owned or non-government manufacturing firms in Western Nigeria. As per the webpage [www.elimuonline.com](http://www.elimuonline.com/) Western Nigeria has 123 manufacturing firms of which 61 are privately owned. The target population will therefore comprise of 61 non-government manufacturing firms. The study carried out a census of the 61 manufacturing firms in Western Nigeria.

# Data Collection

The study used secondary data which was collected using a data collection form. Data collection forms was administered to firm bursars in all the manufacturing firms in Western Nigeria. The data collection form obtained data for a period of three years from 2014 to 2016.

# Data Analysis

This is the procedure of looking at, changing, and modeling information with the objective of extracting helpful data, connoting conclusions, and supporting conclusions. The gathered data was analyzed by employing descriptive statistics such as mean and standard deviation. The multiple linear regression was employed to ascertain the association linking dependent variables and independent variables.

# Diagnostic Tests

Diagnostic test included normality, multicollinearity, autocorrelation and the homogeneity of variance. Normality was tested using skewness and kurtosis whereas the cut points of normality were -1 and +1. Auto correlation was determined using the Durbin Watson test where the cut points were between 1 and 3. Further, multicollinearity was determined using the variance inflation factors (VIF) and tolerance levels where the cut points of VIF were 1 and 10. Finally, the homogeneity of variance was tested using a residual plot where the pattern of residuals will be observed.

# Analytical Model

The following model was used as the analytical model

𝑌 = 𝛽0 + 𝛽1𝑋1 + 𝛽2𝑋2 + 𝛽3𝑋3 + 𝛽4𝑋3 + 𝜀

Where:

𝑌 = Growth determined using Surplus or Deficit as % of total income i.e. Surplus or Deficit/total income

𝛽0= Constant

𝑋1 = Represents debt financing which is the proportion of total borrowing to total assets

𝑋2 = Administrative efficiency determined using the proportion of administrative expenses to total expenses

𝑋3 = Operational efficiency determined using the cost to income ratio

𝑋3 = Revenue growth determined using (Revenuet – Revenuet-1)/ Revenuet-1 ε = error term or stochastic term

# Test of Significance

ANOVA and F-test showed the fitness of the model used in the study. The coefficients showed how each of the variables influences implementation. The results of significance were interpreted at 5% level of impact. Both the t-tests and the p-values were interpreted.

# CHAPTER FOUR

# DATA ANALYSIS, RESULTS AND DISCUSSIONS

# Introduction

In this chapter, the results of the research are presented and discussions made. The chapter thus covers the response rates, correlation, regression and the findings interpretations.

# Response Rate

The study carried out a census of the 61 manufacturing firms in Western Nigeria and collected data for a period of 3 years from 2014 to 2016. The study however managed to collect data from 43 manufacturing firms leading to a response rate of 70.49%, which was deemed enough to carry out the research.

# Descriptive Statistics

## Table 4.1 Descriptive Statistics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Financialperformance | Debtfinancing | Administrativeefficiency | Operationalefficiency | Revenuegrowth |
| N | 169 | 169 | 169 | 169 | 169 |
| Mean | .10278 | .11587 | .38005 | 6.41947 | .25539 |
| Std. Deviation | .081823 | .091060 | .122399 | 8.194134 | 1.128609 |
| Skewness | -1.549 | .292 | 1.187 | .417 | .276 |
| Kurtosis | .980 | -.588 | .677 | 1.757 | .929 |
| Minimum | -.192 | .000 | .123 | -19.660 | -.0819 |
| Maximum | .341 | .383 | .810 | 37.500 | 8.370 |

**Source: Research findings**

The results on table 4.1 indicate that the average performance in financial terms is 0.10278 with the minimum and maximum values being -0.192 and 0.341 while the average value of debt financing is 0.11587 with minimum and maximum values of 0.000 and 0.383 respectively. The results further indicate that the average value of administrative efficiency is 0.38005 with the minimum and maximum values being 0.123 and 0.810 respectively while the average value of operational efficiency is 6.41947 with the minimum and maximum values being -19.660 and 37.500 respectively. The mean revenue growth for the firms is 0.25539 with the minimum and maximum values being -.0819 and 8.370 respectively. Based on the calculated kurtosis and skewness which range within -1 and +1 the data is normally distributed and the assumption of normality is not violated.

# Diagnostic Tests

This study will assess multicollinearity through correlation analysis, homogeneity test of variances and variance inflation factors.

# Correlation Analysis

## Table 4.2 Correlation Analysis

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Growth | Debt financing | Administrative efficiency | Operational efficiency | Revenue growth |
| Financialperformance | 1 |  |  |  |  |
| Debt financing | .104 | 1 |  |  |  |
| Administrative efficiency | -.131 | -.089 | 1 |  |  |
| Operationalefficiency | -.438\*\* | -.052 | -.030 | 1 |  |
| Revenue growth | .135 | .146 | -.116 | .038 | 1 |

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Source: Research findings**

The results on table 4.2 show that the correlation between debt financing, revenue growth and growth of manufacturing firms in Western Nigeria is weak and positive. The tables further show that the correlation between administrative efficiency, operational efficiency and growth of manufacturing firms in Western Nigeria weak and negative.

# Homogeneity Test of Variances

A residual plot was used to explore the assumption of homogeneity of variances. Figure

4.1 shows the results.



**Figure 4.1 Residual Plot**

**Source: Research findings** Figure 4.1 indicates the residual plots. This indicates that the plotted residuals are not observing a common pattern thus an indication that there is no heteroscedasticity.

# Test for Multicollinearity

The variance inflation factors and tolerance levels were used to test for multicollinearity between the dependent and independent variables. Table 4.3 shows the results

## Table 4.3 Test for Multicollinearity

|  |  |  |
| --- | --- | --- |
| **Variables** | **Tolerance** | **VIF** |
| Debt financing | .943 | 1.060 |
| Administrative efficiency | .982 | 1.018 |
| Operational efficiency | .952 | 1.051 |
| Revenue growth | .977 | 1.024 |

a. dependent variable: growth

**Source: research findings**

The collinearity statistics on table 4.3 indicates that there is no multicollinearity since the VIF values are less than recommended value of 10 while the tolerance values are more than the recommended value of 0.2.

# Regression Analysis

The regression analysis section contains the model summary, the analysis of variance (ANOVA) and regression coefficients results.

# Model Summary

## Table 4.4 Model Summary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error of theEstimate | Durbin-Watson |
| 1 | .486a | .236 | .211 | .271597 | 1.961 |

1. predictors: (constant), revenue growth, operational efficiency, administrative efficiency, debt financing
2. dependent variable: growth

**Source: Research Findings**

The results of the model summary on table 4.3 show that the coefficient of determination value is 0.236. This means that the independent variable (debt financing) and the control variables (operational efficiency, administrative efficiency and revenue growth) account for 23.6% of the variation in the dependent variable (growth). The Durbin Watson statistics indicates that there is no autocorrelation as the 1.961 value lies between the recommended range of 1 and 3 respectively.

# Analysis of Variance

## Table 4.5 ANOVA

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | Sum of Squares | df | Mean Square | F | Sig. |
|  | Regression | 2.825 | 4 | .706 | 9.574 | .000b |
| 1 | Residual | 9.147 | 124 | .074 |  |  |
|  | Total | 11.972 | 128 |  |  |  |

1. dependent variable: growth
2. predictors: (constant), revenue growth, operational efficiency, administrative efficiency, debt financing

**Source: Research findings** The results of ANOVA on table 4.4 show that the P value is 0.000 < 0.05 which is an indication that the model is significant. The findings also indicate that the regression equation is fit to predict the relationship between the study concepts.

# Regression Coefficients

## Table 4.6 Coefficients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | UnstandardizedCoefficients | StandardizedCoefficients | t | Sig. |
| B | Std. Error | Beta |
| (Constant) | -.661 | .070 |  | -9.516 | .000 |
| Debt financing | .047 | .052 | .074 | .912 | .364 |
| 1 Administrative efficiency | -.234 | .015 | -.124 | -15.601 | .000 |
| Operational efficiency | -.016 | .003 | -.431 | -5.357 | .000 |
| Revenue growth | .033 | .020 | .130 | 1.641 | .103 |

a. dependent variable: growth

**Source: Research findings**

The coefficient results on table 4.5 indicate that the relationship between debt financing and growth of manufacturing firms in Western Nigeria is positive and insignificant. The results also show that the relationship between administrative efficiency and growth of manufacturing firms in Western Nigeria is negative and significant while the relationship between operational efficiency and growth of manufacturing firms in Western Nigeria is negative and significant. The results finally show that the relationship between revenue growth and growth of manufacturing firms in Western Nigeria is positive and insignificant.

# Discussion of the Findings

The study found a positive and insignificant relationship between debt financing and growth of manufacturing firms in Western Nigeria. This is an indication that debt financing does not significantly affect the performance of manufacturing firm in Western Nigeria. Similarly, Saad et al (2015) revealed that equity financing has considerably positive connection with the performance of businesses, while debt financing was insignificant. On the contrary, Koskei (2017) revealed that debt to equity ratio has considerable impacts on the growth, debt asset ratio has no considerable impact on growth.

The study also found a negative and significant relationship between administrative efficiency and growth of manufacturing firms in Western Nigeria. This is an indication that administrative efficiency significantly affects the performance of manufacturing firm in Western Nigeria. As such, Mihaiu, Opreana and Cristescu (2010) supports that administrative efficiency may be attained under the situations of maximizing the outcome of performance in connection to the resources consumed, and this is measured by comparing the impacts achieved to their efforts.

The study further found a negative and significant relationship between operational efficiency and growth of manufacturing firms in Western Nigeria. This is an indication that operational efficiency significantly affects the performance of manufacturing firm in Western Nigeria. Ikapel and Kajirwa (2017) study supported this noting that competent organizations will have the tendency of maintaining more levels of stability in terms of operating performance and outputs as compared to other firms. Presence of a sound management is among the vital factors laid behind most firms’ improved performance.

The study finally found a positive and insignificant relationship between revenue growth and growth of manufacturing firms in Western Nigeria. This is an indication that revenue growth does not significantly affect the performance of manufacturing firm in Western Nigeria. Gabrijelcic, Herman and Lenarcic (2016) on the contrary supports that growth over a given time in the monetary gains of a firm is a good measure of performance as it signifies that a firm is constantly making improvements.

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

# Introduction

In this chapter, section 5.2 provides the summary of the finding, section 5.3 provides the study conclusions while section 5.4 provides the research recommendations. Additionally, section 5.5 outlines the research limitations while section 5.6 recommends areas of further research.

# Summary of Findings

This study aimed at finding out the impact of debt financing on the growth of manufacturing firms in Western Nigeria. The conceptual model for the study constituted debt financing as the independent variable while growth was the dependent variable. In addition, revenue growth, administrative efficiency and management efficiency were employed as the control variables. The study conducted a census of the 61 manufacturing firms in Western Nigeria and collected data for a period of 3 years from 2014 to 2016. The study however managed to collect data from 43 manufacturing firms.

The descriptive results found that the average performance in financial terms was 0.10278 while the average value of debt financing was 0.11587 respectively. The results further established that the average value of administrative efficiency was 0.38005 while the average value of operational efficiency was 6.41947 respectively. The mean revenue growth for the firms was 0.25539. The calculated kurtosis and skewness values established the data was normally distributed and the assumption of normality was not violated.

The results on correlation found that the correlation between debt financing, revenue growth and growth was weak and positive while the correlation between administrative efficiency, operational efficiency and growth of manufacturing firms in Western Nigeria weak and negative. The results of the model summary established that the independent variable and control variables accounted for 23.6% of the variation in the dependent variable while the ANOVA findings found that the study model was significant and fit to predict the relationship between the study concepts.

The coefficient results found that the relationship between debt financing and growth of manufacturing firms in Western Nigeria was positive and insignificant. The results also found that the relationship between administrative efficiency and growth of manufacturing firms in Western Nigeria was negative and significant while the relationship between operational efficiency and growth of manufacturing firms in Western Nigeria was negative and significant. The results finally found that the relationship between revenue growth and growth of manufacturing firms in Western Nigeria was positive and insignificant.

# Conclusions

The study found a positive and insignificant relationship between debt financing and growth of manufacturing firms in Western Nigeria. Thus, the study concludes that debt financing does not significantly affect the growth of manufacturing firm in Western Nigeria.

The study also found a negative and significant relationship between administrative efficiency and growth of manufacturing firms in Western Nigeria. Thus, the study concludes that administrative efficiency significantly affects the growth of manufacturing firm in Western Nigeria.

The research findings established a negative and significant relationship between operational efficiency and growth of manufacturing firms in Western Nigeria. Thus, the study concludes that operational efficiency significantly affects the growth of manufacturing firm in Western Nigeria.

The study also found a positive and insignificant relationship between revenue growth and growth of manufacturing firms in Western Nigeria. Thus, the study concludes that revenue growth does not significantly the performance of manufacturing firm in Western Nigeria.

# Recommendations

The research found that the relationship between debt financing and growth of manufacturing firms in Western Nigeria was positive and insignificant. Thus, the study nevertheless recommends that the administration of manufacturing firms in Western Nigeria should emlpoy optimal levels of debt since interest payments on debt can affect the firms cash flows.

In addition, the study found that the relationship between administrative efficiency and growth of manufacturing firms in Western Nigeria was negative and significant. The study thus recommends that the administration of manufacturing firms in Western Nigeria should impactively manage their administrative expenses to enhance their firms’ performance in financial terms.

The findings revealed that the relationship between operational efficiency and growth of manufacturing firms in Western Nigeria was negative and significant. The study thus recommends that the administration of manufacturing firms in Western Nigeria should impactively manage their total expenses to enhance their firms’ performance in financial terms.

The findings further found that the relationship between revenue growth and growth of manufacturing firms in Western Nigeria was positive and insignificant. Thus, the study nevertheless recommends that the administration of manufacturing firms in Western Nigeria should devise impactive strategies to enhance their revenue generation since revenue is vital towards meeting the obligations of the manufacturing firms.

# Limitations of the Study

The scope of this study was to explore the relationship between debt financing and manufacturing firms in the west growth. The findings are therefore based on manufacturing firms within the Western states of Nigeria and may not be applicable to public manufacturing firm since their financing mode is different as they rely more on government financing and fees.

In addition, while carrying out the study, the study found out that most of the smaller manufacturing firms did not keep up to date accounting reports on the amount of administrative expenses incurred by the institutions. Thus, most of the expenses were estimates especially on the day to day expenses.

Furthermore, the study used secondary data, which was sought from bursars and firm records in manufacturing firms in Western Nigeria. Secondary data in its nature is historical and may not reflect the current situation of borrowing and financing by manufacturing firms. In addition, the data may not be obtained from financial reports which are prepared on certain principals and the firms may not apply same standards.

Finally, the findings are based on the considered study period of 3 years from 2014 to 2016. Therefore, the findings and conclusions are based on the considered study period and may not be applied to the period before or after the research.

# Suggestion for Further Research

The major concept of this study was debt financing which covers short-term financing and long-term debt financing. This study recommends a study on the impacts of either long-term debt or short-term debt financing strategies by manufacturing firms in Western Nigeria.

This study also covered a single county thus the study recommends a similar study on manufacturing firms in several states in Nigeria. The study also recommends an additional study on debt financing by private primary firms in various counties.

Further, there are also international firms in Nigeria; hence, an additional study may be carried out to explore the financing structure in international firms. The impacts of financial structure in international firms on the performance of the firms may be explored and conclusions made.

Finally, a study can be carried on the factors that influence debt financing in manufacturing firms and the major factors that influence their financing choice. A study can also be carried out on the major capital source for manufacturing firms in Nigeria and the challenges faced by the firm heads towards accessing finance.

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# APPENDICES

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **2016****K.Shs** | **2015****K.Shs** | **2014****K.Shs** |
| Total borrowings |  |  |  |
| Surplus or deficit (profit/loss) |  |  |  |
| Total Revenue |  |  |  |
| Total assets |  |  |  |
| Administration expenses |  |  |  |
| Total expenses |  |  |  |

# Appendix III: Research Data

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Year | Net Profit/loss (K.Shs) | Total revenue (K.Shs) | Total borrowings (K.Shs) | Total assets (K.Shs) | Administra tion expenses(K.Shs) | Total expenses (K.Shs) |
| Firm 1 | 2016 | 30034.75 | 500189 | 50048 | 650437 | 583500.5 | 1187481 |
|  | 2015 | -30522.8 | 493782 | 49973 | 597891 | 586501.5 | 1200137 |
|  | 2014 | 30798 | 501710 | 55000 | 600137 | 593561.5 | 1177182 |
| Firm 2 | 2016 | 62500 | 285000 | 50375 | 800000 | 865000 | 1900125 |
|  | 2015 | 52500 | 245300 | 60000 | 837400 | 872765 | 1923000 |
|  | 2014 | -78750 | 350500 | 45000 | 640500 | 800425 | 1810750 |
| Firm 3 | 2016 | 57500 | 600000 | 37500 | 1700000 | 400000 | 1530000 |
|  | 2015 | 67500 | 400000 | 27625 | 1200000 | 450000 | 1680000 |
|  | 2014 | 75000 | 530000 | 37500 | 1900000 | 200000 | 400000 |
| Firm 4 | 2016 | 125040 | 800780 | 75037.5 | 1576600 | 740066 | 1701356 |
|  | 2015 | 124869 | 824132 | 53752.75 | 1813124 | 755085.5 | 1650180 |
|  | 2014 | 152533.8 | 781720 | 300037.8 | 1670780 | 745297.5 | 1500135 |
| Firm 5 | 2016 | 250000 | 1800000 | 200000 | 2500000 | 847500 | 2250000 |
|  | 2015 | 375000 | 2000000 | 0.00 | 1900000 | 750000 | 1900000 |
|  | 2014 | 450000 | 1600000 | 0.00 | 1700000 | 890000 | 1899000 |
| Firm 6 | 2016 | 500000 | 4000000 | 1750000 | 9000000 | 2500000 | 7000000 |
|  | 2015 | 575000 | 3500000 | 2000025 | 8500000 | 1500000 | 6000000 |
|  | 2014 | 450000 | 3800000 | 1625000 | 7000000 | 2000000 | 5000000 |
| Firm 7 | 2016 | 305075 | 4200900 | 1689075 | 8300000 | 1200000 | 3500700 |
|  | 2015 | 925062.5 | 3800500 | 1387552 | 6300000 | 900350 | 2500000 |
|  | 2014 | 1110125 | 2300000 | 2075050 | 9040000 | 2150250 | 5000000 |
| Firm 8 | 2016 | 800000 | 2870000 | 1250000 | 6800000 | 1206921 | 2434002 |
|  | 2015 | 950000 | 2660000 | 1200000 | 5700000 | 1050124 | 2218210 |
|  | 2014 | 525000 | 1890000 | 850000 | 5267231 | 963576 | 1918181 |
| Firm 9 | 2016 | 100000 | 650000 | 450000 | 1200000 | 100000 | 607000 |
|  | 2015 | 112500 | 508000 | 431250 | 1000000 | 52500 | 428000 |
|  | 2014 | -76250 | 425000 | 412500 | 908000 | 98000 | 287000 |
| Firm 10 | 2016 | 465000 | 3120000 | 0.00 | 8000000 | 2430000 | 7600000 |
|  | 2015 | 368250 | 3225000 | 0.00 | 9780000 | 1620000 | 6480000 |
|  | 2014 | 650000 | 2900000 | 0.00 | 8750000 | 1800000 | 2750000 |
| Firm 11 | 2016 | -75000 | 630000 | 450000 | 2400000 | 450000 | 1200500 |
|  | 2015 | 132500 | 840000 | 500000 | 1850000 | 750000 | 1670000 |
|  | 2014 | 200000 | 1005000 | 600000 | 3000000 | 675000 | 1800000 |
| Firm 12 | 2016 | 475000 | 800000 | 625000 | 3000000 | 825000 | 1800000 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2015 | 300000 | 750000 | 450000 | 3500000 | 350000 | 1200000 |
|  | 2014 | 350000 | 750000 | 550000 | 3500000 | 250000 | 1100000 |
| Firm 13 | 2016 | 700000 | 3000000 | 0.00 | 4700000 | 500000 | 2000000 |
|  | 2015 | 575000 | 3200000 | 0.00 | 4800000 | 750000 | 2400000 |
|  | 2014 | 625000 | 2800000 | 0.00 | 3000000 | 650000 | 2700000 |
| Firm 14 | 2016 | 81750 | 1587000 | 450000 | 3987000 | 703500 | 2570000 |
|  | 2015 | 71125 | 1610500 | 484350 | 2200000 | 768500 | 2620700 |
|  | 2014 | 100100 | 1496000 | 467612.5 | 2790000 | 800000 | 2680000 |
| Firm 15 | 2016 | 125000 | 2800000 | 1200000 | 5000000 | 1300000 | 3700000 |
|  | 2015 | 112500 | 2400000 | 1150000 | 3000000 | 1125000 | 3400000 |
|  | 2014 | 50000 | 1800000 | 1050000 | 2000000 | 1250000 | 3750000 |
| Firm 16 | 2016 | 300000 | 1100000 | 650000 | 3000000 | 500000 | 1600000 |
|  | 2015 | -225000 | 500000 | 1087500 | 2500000 | 600000 | 1450000 |
|  | 2014 | 300000 | 600000 | 1100000 | 3000000 | 450000 | 1800000 |
| Firm 17 | 2016 | 375000 | 1000000 | 1225000 | 2000000 | 450000 | 1000000 |
|  | 2015 | 250000 | 900000 | 1125000 | 1900000 | 250000 | 900000 |
|  | 2014 | 225000 | 700000 | 750000 | 1500000 | 200000 | 700000 |
| Firm 18 | 2016 | 462500 | 2580000 | 1875000 | 9000000 | 1725000 | 4970000 |
|  | 2015 | 251250 | 1860000 | 1455000 | 8560000 | 1480000 | 3400000 |
|  | 2014 | 375000 | 2000000 | 1500000 | 7650000 | 1230000 | 2960000 |
| Firm 19 | 2016 | 112500 | 880400 | 0.00 | 1990200 | 895100 | 2005000 |
|  | 2015 | 165000 | 450500 | 0.00 | 1988405 | 499910 | 1705221 |
|  | 2014 | 55225 | 705600 | 0.00 | 1505000 | 555270 | 1409821 |
| Firm 20 | 2016 | 150000 | 1005000 | 0.00 | 1810000 | 490000 | 1500000 |
|  | 2015 | 195250 | 941000 | 0.00 | 1710000 | 500000 | 1450000 |
|  | 1014 | 145250 | 1450000 | 325000 | 1600000 | 605000 | 1350000 |
| Firm 21 | 2016 | 225000 | 770000 | 250000 | 1200000 | 205000 | 800000 |
|  | 2015 | 200000 | 430000 | 200000 | 1101000 | 185000 | 560000 |
|  | 2014 | -112500 | 600000 | 125000 | 990000 | 75000 | 230000 |
| Firm 22 | 2016 | 33042.5 | 600750 | 175063.8 | 800150 | 93525 | 1200050 |
|  | 2015 | 52518.75 | 710781 | 170038.8 | 750155 | 550750 | 1375000 |
|  | 2014 | 44452.5 | 680510 | 177745 | 780750 | 95525 | 1301500 |
| Firm 23 | 2016 | 200000 | 1200000 | 875000 | 5000000 | 650000 | 1500000 |
|  | 2015 | 217500 | 1080000 | 625000 | 4900000 | 625000 | 1800000 |
|  | 2014 | 212500 | 900000 | 950000 | 4500000 | 575000 | 1750000 |
| Firm 24 | 2016 | 27648.75 | 1495453 | 136298.8 | 1800000 | 327700 | 845900 |
|  | 2015 | 23863.25 | 945683 | 116250 | 1675585 | 352800 | 505400 |
|  | 2014 | 56488.75 | 1200000 | 225000 | 2500955 | 400222.5 | 1600255 |
| Firm 25 | 2016 | -50002.5 | 243137 | 175125 | 700183 | 300065 | 1880080 |
|  | 2015 | 34295 | 301536 | 190237.5 | 801340 | 268502.5 | 187347 |
|  | 2014 | 47250 | 320177 | 200257.5 | 783100 | 349760 | 1930430 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Firm 26 | 2016 | 224890 | 3000000 | 0.00 | 4200150 | 400000 | 960050 |
|  | 2015 | 206500 | 2900500 | 0.00 | 3700000 | 380000 | 850000 |
|  | 2014 | 197250 | 1200050 | 500000 | 2500000 | 504525 | 1400500 |
| Firm 27 | 2016 | 39401.25 | 400569 | 50024.75 | 600929 | 164147.5 | 425560 |
|  | 2015 | 72377 | 398040 | 88402.25 | 592600 | 171510 | 392201 |
|  | 2014 | 73762.5 | 379850 | 109820.5 | 555690 | 143525 | 329123 |
| Firm 28 | 2016 | 25050 | 340000 | 103000 | 500750 | 150085 | 380100 |
|  | 2015 | 20000 | 390300 | 96300 | 460120 | 175125 | 360000 |
|  | 2014 | 15125 | 370350 | 87500 | 450000 | 180050 | 320000 |
| Firm 29 | 2016 | 37500 | 623540 | 113900 | 850400 | 43750 | 250000 |
|  | 2015 | 23912.5 | 475600 | 87500 | 634500 | 42862.5 | 130215 |
|  | 2014 | -18375 | 295350 | 75000 | 430750 | 47800 | 105676 |
| Firm 30 | 2016 | 46845.5 | 500302 | 150232.5 | 800182 | 250106.5 | 679522 |
|  | 2015 | 43367.25 | 489273 | 132683.8 | 709790 | 240150.5 | 691281 |
|  | 2014 | 45550.25 | 479292 | 123422.8 | 722312 | 235621.5 | 596287 |
| Firm 31 | 2016 | 151250 | 2580300 | 300000 | 5000345 | 2250150 | 6597000 |
|  | 2015 | 149414.5 | 2300200 | 346250 | 4905050 | 2167550 | 5680000 |
|  | 2014 | 143770 | 2650010 | 352000 | 4603597 | 2296500 | 5770003 |
| Firm 32 | 2016 | 200000 | 1050000 | 375000 | 1600000 | 244893 | 600410 |
|  | 2015 | 158752.5 | 978450 | 217625 | 1215600 | 192947 | 480070 |
|  | 2014 | 143828.8 | 890000 | 150000 | 980000 | 109075 | 450900 |
| Firm 33 | 2016 | 112500 | 700000 | 912500 | 4700000 | 1250000 | 3000000 |
|  | 2015 | 162500 | 800000 | 1195000 | 10000000 | 1500000 | 4500000 |
|  | 2014 | 87500 | 960000 | 1137500 | 10000000 | 1600000 | 4700000 |
| Firm 34 | 2016 | 467300.8 | 2450050 | 0.00 | 4500390 | 381025 | 1230010 |
|  | 2015 | 438048 | 2368720 | 0.00 | 4758920 | 325161 | 1103330 |
|  | 2014 | 468336.3 | 2480970 | 0.00 | 4800900 | 341225 | 1300210 |
| Firm 35 | 2016 | 50000 | 450000 | 200000 | 790500 | 202500 | 450000 |
|  | 2015 | 200125 | 590000 | 0.00 | 670050 | 300075 | 1065500 |
|  | 2014 | 177700 | 550600 | 0.00 | 630000 | 245000 | 630000 |
| Firm 36 | 2016 | 162500 | 1250650 | 0.00 | 1800000 | 425025 | 940010 |
|  | 2015 | 145000 | 999300 | 0.00 | 1400000 | 385300 | 795135 |
|  | 2014 | 105000 | 870000 | 0.00 | 1100000 | 280300 | 610250 |
| Firm 37 | 2016 | 200000 | 1250000 | 400000 | 1580230 | 93500 | 1153000 |
|  | 2015 | -192033 | 1000000 | 243900 | 174350 | 365250 | 1200000 |
|  | 2014 | 153332.5 | 2000000 | 75000 | 2433380 | 375050 | 1189050 |
| Firm 38 | 2016 | 125000 | 1800000 | 400000 | 5200000 | 1500000 | 2000000 |
|  | 2015 | 50000 | 750000 | 30000 | 2000000 | 1250000 | 1250000 |
|  | 2014 | 175000 | 400000 | 37500 | 8000000 | 250000 | 650000 |
| Firm 39 | 2016 | 100000 | 700000 | 22500 | 1600000 | 150000 | 2200000 |
|  | 2015 | 150000 | 900000 | 30000 | 1090000 | 80000 | 1800000 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2014 | 62500 | 300000 | 47500 | 990000 | 45000 | 1000000 |
| Firm 40 | 2016 | 150000 | 440000 | 450000 | 2500000 | 350000 | 990000 |
|  | 2015 | 75000 | 800000 | 50000 | 1100000 | 200000 | 700000 |
|  | 2014 | 112500 | 230000 | 47500 | 770000 | 60000 | 400000 |
| Firm 41 | 2016 | 24500 | 300205 | 80000 | 550790 | 383775 | 1117020 |
|  | 2015 | 24687.5 | 293017 | 81250 | 490230 | 386525 | 1100530 |
|  | 2014 | 24967.5 | 294081 | 81000 | 525007 | 393502.5 | 1101020 |
| Firm 42 | 2016 | -112500 | 620000 | 0.00 | 3000500 | 475000 | 1600500 |
|  | 2015 | 87500 | 580000 | 1500043 | 2800000 | 240000 | 1300005 |
|  | 2014 | 75000 | 500000 | 0.00 | 1900000 | 245000 | 900000 |
| Firm 43 | 2016 | -95000 | 2801000 | 387500 | 3010000 | 948500 | 2340000 |
|  | 2015 | 136250 | 2042000 | 320000 | 2960000 | 975000 | 3089000 |
|  | 2014 | 240000 | 2720000 | 415000 | 3001000 | 1002500 | 3000200 |