IMPACT OF FIRM ATTRIBUTES ON SHARE PRICES OF LISTED MANUFACTURING CAMPANIES IN NIGERIA

BY

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A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE (M.Sc.) IN ACCOUNTING AND FINANCE

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JUNE, 2018

DECLARATION

I declare that the work in this dissertation titled "The Impact of Firm Attributes on the Share Prices of Listed Manufacturing Companies in Nigeria" has been carried out by me in the Department of Accounting. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other Institution.

BELLO, Bashir Alhaji **Signature** **Date**

CERTIFICATION

This dissertation titled "Impact of Firm Attributes on Share Prices of ListedManufacturing Companies in Nigeria" by BELLO, Bashir Alhaji(P15ADAC8012) meets theregulations governing the award of the degree of Masters of Science(M.Sc.) in Accounting and Finance of the Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literarypresentation.

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DEDICATION

This work is dedicated to the entire members of my family, the one I belong to, and the one that belongs to me, and to those who showed concerned about this study from its inception up to its logical conclusion.

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ABSTRACT

This study examined the impact of firm attributes on the share prices of listed manufacturing companies in Nigeria. The study was motivated bythe shortcomings faced by related previous studies in the measurement of share price, and the less attention focused on specific sectors. The population of the study comprised all the 69 quoted manufacturing companies on the Nigeria Stock Exchange as at 31st December 2016 on which filters were employed to arrive at an adjusted population of 32 firms. The entire firms within the adjusted population were studied based on census approach. Panel data were extracted from the annual financial statements of the firms for the period 2008 – 2016 to examine the impact of firm attributes represented by leverage, firm size, firm age, firm growth, tangibility, internal governance, and market concentration on share price of the firms. The result of the random-effects GLS regression revealed that of the seven firms' attributes used in the study, firm size, firm age, and market concentration have significant positive relationship with share price, while internal governance has significant negative relationship with share price. The result further revealed that leverage and tangibility have positive but insignificant influence on share price, while firm growth has negative insignificant effect on share prices of listed manufacturing companies in Nigeria. Based on the results, the study concluded that firm attributes have significant impact on the share prices of listed manufacturing companies in Nigeria. The study thus recommends, among others, that management of Nigerian manufacturing companies should put in place more efforts to maintain the going concern status of their firms in order to facilitate smooth operation and continuous survival which in turn will translate into increased prices in their shares by gaining more investors' patronage; and that investors in the Nigerian manufacturing companies should advocate for the regulatory authorities to reduce the range of board membership to a minimum of

five (5) members and a maximum of ten (10), so as to help reduce the delays in decision making and to minimise the effect of boardroom politics in the firms.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Market prices of shares are among the important indices which influence investors' decision to invest in equity shares (Sujeewa, 2016). Share prices can be seen as important indices in determining stock market returns. It refers to that price at which both the seller and buyer are willing to exchange for a unit of share in a free market. It is influenced by the forces of demand and supply as more buyers than sellers result in the rise in share price and vice versa. Sujeewa (2016) argued that falling share prices are capable of negatively affecting the firms' ability to raise funds from the stock market, because such firms find it difficult to obtain the needed funds for expansion through the issue of shares, which costs less when compared with sourcing for such funds through debt.

Factors influencing share prices have become one of the topical issues of research among global financial scholars, who have examined different factors and their influence on the prices. These factors have been broadly classified into microeconomic (firm's internal) and macroeconomic (firm's external) factors (Jimoh, 2009). The microeconomic factors (also known as firm's attributes) which influence share prices include but not limited to earning per share, book value of shares, dividends, liquidity, leverage, firm size, firm age, firm growth, asset net assets, and cash flows. Also, the macroeconomic factors include interest rates, inflation rates, exchange rates, gross domestic product (GDP), fiscal deficit and money supply among others (Jimoh, 2009). Equally, Ibrahim and Aziz (2003) documented the macroeconomic factors influencing share prices to include industrial production, risk premium, inflation rates, gross domestic product (GDP) and oil prices among others.

Firms obtain finances to fund their businesses or investments through different sources, mainly debts and equity. The extent of debt financing of a firm's business activities indicates its level of leverage. Uwalomwa, Olowe and Agwu (2012) suggest that leverage is negatively related to share price. That is, as the debt content in a firm's capital structure increases, its share prices would drops. According to Mehul and Varadraj (2013), highly levered companies are perceived to be riskier, and that leverage affects the changes in share prices. It is therefore expected that highly levered firms would have lower share prices. Also, firms can be classified according to their sizes. The size of a firm can be measured in many ways such as the firm's operation capacity usually reflected in its sales value, assets base, and capitalisation among others. Mohammad (2014) posits that investors obtain better investment opportunities in large firms than smaller ones. This, he argued, is in view of the fact that shares of large companies do place investors in a more liquid and marketable position because they are actively traded in the stock exchange. Hence the need to buy the shares of large companies leads to increase in their prices. In addition, Olawale and Kazeem (2015) identified the size of a firm as an important factor influencing share price. It can therefore be argued that firm size is expected to exert positive influence on share price.

Firm age is also an attribute which is unique within a firm and differ among different firms. Older firms are expected to have higher share prices as the value of their accounting information can be more relevant in the market (Akeem, 2014). One can deduce therefore that firm age would have positive influence on share price. Furthermore, firms are also characterised by their growth rate. Mohammed and Usman (2016) suggest that growing firms have the ability to offer better customer satisfaction which enables them to attain increased sales level, thereby earning higher profits which may translate into the increase in their share prices. Therefore, it can be argued that firms with higher growth rates are expected to have increasing share prices.

Tangibility of assets is one of the attributes of a firm which is likely to have some impact on share prices. Campbell and Ohuocha (2011) argued that tangible assets (also called real assets) are those assets whose values are determined based on some physical properties (eg building, machinery, land, and mine among others). Tangibility can be perceived to be the ratio of a firm's fixed assets over its total assets. By this definition, it can be argued that tangibility is an important factor which determines a firm's going concern because, investment in fixed assets provides some assurances about the firm's future cash flows. Considering the fact that some shareholders invest with the main objective of earning capital gains in the future, firms invest in fixed assets to facilitate shareholders' wealth maximisation. This will enhance investors' confidence and increase demand for the firm's shares by prospective investors thereby resulting in the increase in share prices of such firms.

The evaluation of this factor (tangibility) in the manufacturing sector would not be out of place in view of their investments in such fixed assets as production machines, delivery vans, buildings, and IT equipment among others. In spite of the envisaged important roles of tangibility in influencing share prices, the researcher could not find any study which examined tangibility in relation to share price.This could be as a result of dearth of relevant studies which evaluated such relationship. However, prior studies such as Vijitha and Nimalathasan (2014); Edirin and Godsday (2015); and Sujeewa (2016) examined the influence of net assets or net assets per share on share prices.Internal governance is one of the corporate governance mechanisms in which control structures are directed towards proper management of a corporation's resources in order to safeguard investors' interests. Brown, Beekes and Verhoeven (2010) point out that internal governance usually emanates from the decisions and actions of a firm's shareholders and those of its board of directors. Drawing from this position, it can be understood that internal governance is one among firms' attributes which differ from one firm to the other. Mediha, Asma and Adel (2017) examined

the effect of both ownership structure and board structure on share price volatility and established that the components of board structure have significant negative effect on share price volatility. The components of board structure examined in the study were board independence, CEO duality, and board size. In this study, board size will be examined as a proxy for internal governance in relation to share price. Board size can be referred to as the number of persons in a firm's board of directors. Owing to the fact that the decisions and actions of the board of directors are aimed at the firm's growth, and shareholders wealth maximisation, the relevance of board size in determining share price cannot be overemphasised. It can therefore be expected that firms which have higher number of members in the board of directors are likely gain more advantage in terms of the rise in share prices. In spite of the perceived role of board size in determining share price, only a few studies (such as Martiju&Vinay, 2005; and Mediha, Asma, &Adeh, 2017) have examined the effect of board size on share prices. This study would therefore examine board size as a proxy for internal governance, and its impact on share prices.

Market concentration is also one of the firms' attributes which are expected to exert some influence on the prices of shares. Hrazdil and Zhang (2012) argued that market concentration is a very useful interface for competition among the different firms in an industry. It was suggested in the study conducted by Aghion, Bloom, Blundell, Griffith, and Howitt (2005) that competition measures can be used to determine the extent to which market structure affects investments and innovations. Market concentration can simply be referred to as the proportion of sales of one firm relative to other firms within the same industry. However, Enida and Vasilika (2013) argued that market concentration can be determined using other factors than sales, such as production, employment, and other relevant indicators. Owing to the fact that the turnover of a firm has direct bearing on its profitability, it can be posited that turnover is a factor which can affect the firm's share price. This is because, higher turnover

ceteris paribus translate into higher profits for a firm, which can result in increase in the firm's share prices because of attracted increased investors patronage. By this position, it can be expected that market concentration would have a positive effect on share price. The assessment of this factor (market concentration) in the Nigerian manufacturing sector would be plausible in view of the large number of competing firms in the sector. For instance, African Pints (Nig.) Plc, Berger Paints Plc, DN Meyer and other paints producing firms would always compete to ensure that their respective products are patronised more to enable them earn higher turnover. In spite of the expected effect of this factor on share prices, previous studies have neglected to examine the relationship between market concentration and share prices. However, some studies such as Adekunle, Agbadudu, and Ammeh (2015); and Ijeoma (2015) only examined the effect of some profitability ratios (return on equity and return on assets) on share prices.

Studies have been conducted in both developed and developing economies to ascertain the influence on share prices by the respective factors. Studies conducted on the influence of microeconomic (firm's internal) factors on share prices produced divergent outcomes. Some of the studies established positive relationships (Edirin&Godsday, 2015; Ijeoma, 2015; and Dissanayake&Biyiri, 2017), whereas others documented positive relationships between some of the factors (earning per share, book value per share, net assets per share, and dividend per share among others) and the share price, as well as negative relationships between the other factors (liquidity, firm size, leverage and total dividends among others) and share prices (Nidhi&Kamini, 2013; Maimako, (2014); and Muzammal, Syed &Amjad, 2014). This study would examine firm attributes (leverage, firm size, firm age, firm growth, tangibility, internal governance, and market concentration) and their impact on the share prices of manufacturing firms in Nigeria.

The manufacturing sector in Nigeria is considered as the second largest employer of labour apart from the government (Mahmoud, 2016). The sector consists of five sub-sectors, which include agriculture, conglomerates, consumer goods, healthcare, and industrial goods. As a result of the sector's importance in the Nigerian economy, in which it contributes a major component of the nation's Gross Domestic Product (GDP), the federal government has established different policies over time to strengthen the operations of manufacturing firms and to enlarge their scope of activities so as to enable them maximise shareholders' wealth through improved financial performance (Mahmoud, 2016). This makes the sector relevant for the assessment of share prices behavior. Also, the unprecedented decline in oil prices motivated the federal government's decision, in which it has recently reiterated the need to develop the manufacturing sector in order to move Nigeria from an import-based to an export-based economy. Thus, the sector provides a good motivation for assessing the impact of firms' attributes on share prices of firms operating in the sector in Nigeria.

1.2 Statement of the Problem

Market prices of shares are among the important indices which influence investors' decision to invest in shares. This is because such increases will offer prospective investors the confidence of earning some future returns in the form of capital gains. Therefore, the understanding of share price movements in the capital market will be useful to investors for their investment decisions. In Nigeria, the activities of the past such as recapitalisation of the banking sector in the year 2004 and the insurance industry in the year 2005 improved the activities of the manufacturing sector by facilitating their production growth. Although marginally, the growth in the manufacturing sector created increased public awareness and investors' confidence on the movement of share prices of manufacturing firms in Nigeria (Ajao&Wemambu, 2012). However, investors in the recent time have been worried about the fluctuations and instability in the prices of shares in Nigeria (Ogbade&Austine, 2015). This

may not be unconnected with the recent economic hardship faced by the Nigerian economy, which ranges from high inflation rates, among other factors.

In spite of the efforts made by previous researchers to establish the reaction of share prices to the numerous factors, their measurement of share price may be faced with some shortcomings. For instance, Shobhana and Karpagavalli (2011); Sharma (2011); and Karpagavalli and Nirmala (2014) measured share price as the average of the highest market price and the lowest market price of the shares during the financial year. In contrast, Anita and Yadav (2014); and Shamki and Khalaf (2016) used closing price as at the financial year end as the measure for share price. In Nigeria, prior studies such as Okolie (2014), Oyinola and Ajeigbe (2014), and Kehinde, Uwalomwa, Olubukola, Osariemen and Sylvester (2017) used the closing price as at the balance sheet date as the measurement of share prices. Considering the nature of the Nigerian stock market, the reaction of the market to new information would be slow. It would therefore be practically impossible to expect that closing price at financial year end can reflect any change resulting from the firm's accounting numbers of the same financial year. Also, the study conducted by Adaramola, and Oyerinde (2014) measured share price as the price as at the end of third month post balance sheet date.This measure of share price may be considered as being capable of reflecting the effect of new accounting information of the preceding year. However, the measures may be criticised for not being capable to sufficiently represent the share prices of a financial year. This is owing to the fact that share prices fluctuate almost on a daily basis, hence taking the price of only one business day may not be sufficient to represent the share prices of a financial year.

Furthermore, another Nigerian study conducted by Mohammed and Usman (2016) used the average share price for three months (ie 1st April to 30th June) as a measure of share prices. It is therefore not clear as to whether the share price data obtained by the study relate to the

same balance sheet year or post balance sheet year, hence attract some doubt with regard to the relevance of the share price data used in the measurement. However, if it is assumed on one hand that the share price data used was for the balance sheet year, the research outcome may be seen as spurious because the share price would have preceded the balance sheet data used hence cannot reflect the reaction of the share prices to annual the financial data. If on the other hand the share price data is for the post balance sheet periods, the research effort may then be a commendable one because of the long period data used. Even though, the use of a relatively lengthier post balance sheet period's share price data may better reflect the reaction of share prices to balance sheet data because of the slow reaction of the Nigerian stock market to new information. This study therefore strives to minimise or even eliminate the aforementioned shortcomingsby using the share prices of lengthier time periods, thusmeasuring share price as the average of quarterly closing prices of the first three quarters (March 31; June, 30; & September 30) of the post balance sheet year so as to have a better and more sufficient representation of the annual share prices. This may equally produce a better research outcome.

In addition to the shortcomings faced by the measurement of share price in most previous studies such as Shobhana and Karpagavalli (2011) and Shamki and Khalaf (2016), a majority of the studies were focused on the stock markets of different countries without consideration for sector specifics despite the fact that firms in one sector share certain common peculiarities different from those in another sector. For instance, studies conducted by Pramond and Pija (2012); and Hassan (2015) concentrated on the stock markets in India and Nigeria respectively. However, few studies like Mohammad (2014) in Jordan, and Ganna and Cornelia (2016) in the USA, among others, concentrated on the Banking and Aviation Industries respectively. In addition, some similar studies in Nigeriansuch as Mohammed and Usman (2014), and Kehinde et al. (2017) respectively focused on the Nigerian

Pharmaceutical firms and the Banking industry respectively. However, only few studies in Nigerian such as Mahmoud (2016) were conducted in the Nigerian manufacturing sector, but examined the relationship between earnings quality and share price.This therefore creates the vacuum to be filled by further studies on share prices in the Nigerian manufacturing sector.

Also, all the studies by Edirin, and Godsday(2015), Yusuf, Ibrahim and Alabede(2015) and Sujeewa(2016) which examined the impact of assets on share prices made use of the value of net assets per share. The major pitfall of using net assets value (NAV) is that it merges the assets which have both long term (fixed assets) and short term (current assets) effects on the firm. However, considering the nature of tangibility which serves as a more dependable collateral for obtaining loans and other credit facilities, and owing to the fact that investment in shares is mostly aimed at earning future capital gains in the long run, it will be necessary to assess the effect of fixed assets on share prices. Therefore, this study would be among the few, if any that examined tangibility (the ratio of fixed assets to total assets) and its impact on share price.

The measurement share price as the average of quarterly closing prices of three quarters (March 31; June, 30; & September 30) of the year introduced in this study, coupled with the mono-dimension focused of most previous studies, and the introduction of new variables suggest the need and motivation for further studies in the area. Hence a study of this nature in the listed manufacturing firms in Nigeria would not be out of place. This is in view of the fact that manufacturing sector in Nigeria plays a very important role in job creation, which is one of the major activities that drive the Nigerian economy. It is against this backdrop that this study concentrates on the impact of firm attributes on share prices of listed manufacturing companies in Nigeria in order to fill the established gaps, and to serve as addition to the number of similar studies conducted on specific sectors.

Subsequent to the statement of problem, it becomes pertinent to ask the following questions:

i.) How does leverage impact on the share prices of listed manufacturing companies in Nigeria?

ii.) To what extent does firm size impact on the share prices of listed manufacturing companies in Nigeria?

iii.) What is the impact of firm age on the share prices of listed manufacturing companies in Nigeria?

iv.) How does firm growth impact on the share prices of listed manufacturing companies in Nigeria?

v.) To what extent does tangibility impact on the share prices of listed manufacturing companies in Nigeria?

vi.) How does internal governance impact on the share prices of listed manufacturing companies in Nigeria?

vii.) What is the impact of market concentration on the share prices of listed manufacturing companies in Nigeria?

1.3 Objectives of the Study

The main objective of this study is to examine the impact of firm's attributes on share prices of the listed manufacturing firms in Nigeria. The specific objectives include:

i.) To assess the impact of leverage on the share prices of listed manufacturing firms in Nigeria.

ii.) To examine the impact of firm size on the share prices of listed manufacturing firms in Nigeria.

iii.) To evaluate the impact of firm age on the share prices of listed manufacturing firms in Nigeria.

iv.) To investigate the impact of firm growth on the share prices of listed manufacturing firms in Nigeria.

v.) To examine the impact of tangibility on the market prices of shares of listed manufacturing firms in Nigeria.

vi.) To evaluate the impact of internal governance on the share prices of listed manufacturing firms in Nigeria.

vii.) To assess the impact of market concentration on the share prices of listed manufacturing firms in Nigeria.

1.4 Research Hypotheses

In line with the objectives of the study, the following null hypotheses are formulated:

$H0_1$ Leverage has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_2$ Firm size has no significant influence on the share prices of listed manufacturing firms in Nigeria.

$H0_3$ Firm age has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_4$ Firm growth has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_5$ Tangibility has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_6$ Internal governance has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_7$ Market concentration has no significant impact on the share prices of listed manufacturing firms in Nigeria.

1.5 Scope of the Study

This study basically seeks to investigate the impact of firm attributes (leverage, firm size, firm age, firm growth, tangibility, internal governance, and market concentration) on share prices of manufacturing companies listed in Nigeria for a period of nine years (2008 – 2016). This period is considered suitable because it is the period within which firms in the Nigerian manufacturing sector are working towards strengthening their activities due to the global financial crisis of 2008 which had negatively affected the prices of shares of firms in the sector in particular, and the Nigerian Stock Market in general. Even though there are many factors that can determine share prices, this study is limited to internal factors (firm attributes). This provides the opportunity to test whether firm attributes have impact on the share prices of listed manufacturing firms in Nigeria.

1.6 Significance of the Study

Share prices have been one of the important indeces used in determining firms' performance since the global financial crisis that affected many firms. The findings of this study is expected to contribute practically and theoretically to various stakeholders as well as provide a basis for policy formulation. Specifically, this study will fill the gap and serve as a stepping stone for further research in the area. This is one of the few empirical studies that will attempt to investigate the impact of firms' attributes on share prices of firms in a specific sector in Nigeria, and it is among the few if any study which examinedtangibility as one of the independent variables in relation to share price.Therefore, this study will be of significance to the following groups:

The result of the study will reveal to both existing and prospective investors the impact of the selected factors on share prices, and therefore place them in a better footing to know the factors to be considered in making investment in shares. The Central Bank of Nigeria (CBN) and the Nigerian Stock Exchange (NSE) are also expected to benefit from the findings of this study as they would be enabled to understand those factors which will require more attention for policy debates and formulation and for better discharge of regulatory obligations. The study will also be relevant to the management of the manufacturing firms as the information to be derived from it will enable them understand the firm's internal factors which would be given more attention for planning and managerial decisions related to share prices of the firms.

Other beneficiaries are financial analysts, stock brokers, and accounting and finance professionals, as they will be properly guided in providing professional advice to their respective clients by understanding the factors influencing share prices, especially in the Nigerian manufacturing sector.

In addition, future researchers will find this study of utmost significance as it will serve as a source of useful reference material and an addition to the literature on firms' attributes and their impacts on share prices.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter discusses the concepts of firm attributes and share prices. The chapter also provides a review of empirical literature on the relationship between the variables of the study and it is concluded with the theoretical framework.

2.2 Conceptualisation

This sector highlights the several definitions provided by various scholars on all the variables of the study (leverage, firm size, firm age, firm growth, and tangibility, internal governance, and market concentration). Also, the working definitions of each of these variables are provided.

2.2.1 Concept of Share Price

Share price has been defined as the value at which a share is purchased in the stock exchange market. The early concept of share prices was suggested to have its origin from Random Walk theory of Fama (1980). Some of the earliest studies on share price were conducted by Fama (1965) and Samuelson (1965). Shillers (2000) supported the random walk behaviour of share prices. The outcome of the study by Shillers (2000) revealed that share prices are highly uncertain in view of firm attributes which are subject to changes and as a result, influence the prices of shares that are traded in the stock markets.

The factors influencing share prices are micro and macroeconomic environmental factors. These factors include Earnings per Share, Dividend Per Share, Price/Earnings ratio, Dividend Cover, Net Book Value of the firm, Return on Equity, inflation rates, money supply, interest rates, and exchange rates among others (Gompers, Ishii &Metrick, 2003; and Vaz, 2011). The argument by Moore and Beltz (2002) suggests that share prices of firms are influenced by firm beta ratios. Corwins (2003) identified uncertainty and asymmetric information as strong factors that influence the prices of firms' shares.

Share price was measured by the average of the highest market price and the lowest market price of the shares during the financial year (Shobhana&Karpagavalli, (2011); Sharma, (2011); and Karpagavalli&Nirmala, (2014)). Contrarily, Anita and Yadav (2014) used closing price during the financial year end as proxy for the market share price. Similarly, Shamki and Khalaf (2016) suggested that share prices can assume different definitions, but it is best defined as the price of share prevailing as at the closing (balance sheet) date. Their argument was based on three share price measures evaluated (closing price, average price, and after three months' price) in which it was noted that closing price is the most dependable among the three share prices measures.

In Nigeria, studies conducted byOkolie (2014), Oyinola and Ajeigbe (2014), and Kehinde, Uwalomwa, Olubukola,Osariemen and Sylvester (2017) may also be criticized for using closing price as at the balance sheet date as the measurement of share prices. The critique may be in view of the fact thatthe Nigerian stock market is efficient in semi-strong form, hence the reaction of the market to new information would be slow. It would therefore be practically impossible to expect that closing price at financial year end can reflect any change resulting from the firm's accounting numbers of the same financial year. Also, the study conducted by Adaramola and Oyerinde (2014) measured share price as the price as at the end of third month post balance sheet date. This measure of share price may be considered as

being capable of reflecting the effect of new accounting information of the preceding year. However, the measures may be criticised for not being capable to sufficiently represent the share prices of a financial year. This is owing to the fact that share prices fluctuate almost on a daily basis, hence taking the price of only one business day may not be sufficient enough to represent the share prices of a financial year.

Also, a study conducted in Nigeria by Mohammed and Usman (2016) used the average share price for three months (ie 1st April to 30th June) as a measure of share prices. This effort would have been commendable if not for the ambiguity in the kind data used for the measurement, as pointed out earlier in this study. This study therefore defines share price as the average of quarterly closing prices of three quarters (March 31; June, 30; & September 30) of the post balance sheet year.

2.2.2 Firm Attributes

Firm attributes like many concepts in arts and social sciences is subject to different definitions, which emanate from individual peculiarities among firms and regulatory frameworks across different nations. The disparities in socio-economic, cultural, legal, political setting of nations and researchers' perspectives account generally for the differences in these definitions. Shehu and Farouk (2014) refer to firm attributes as those variables which are relatively persistent among different firms over any given time period. The study highlighted such variables to include, among others, firm size, ownership structure, leverage, profitability, liquidity, and firm growth.

The concept of leverage has been referred to by Mehul and Varadjat (2013) as the ratio of a firm's debt to its equity. Trisha (2016) refer to leverage as the employment of fixed interest-bearing assets or sources of funds to respectively enhance a firm's earnings before interest and tax (EBIT) or earning per share (EPS). Leverage has been classified into operating and

financial leverage. Leverage has also been defined by Sanjay (2017) as the existence of debt in a firm's capital structure. He also classified leverage into operating and financial leverage. Operating leverage refers to a firm's ability to enhance its EBIT using fixed operating costs. It relates mainly to the variation in sales and profit. Financial leverage on the other hand is referred to as a firm's ability to enhance the effects of changes in EBIT on its EPS with the use of fixed financial charges (Trisha, 2016). For the purpose of this study, leverage is defined as the ratio of a firm's total debts to its total assets.

Firm size as a concept has been referred to as a firm's staff strength(Roxas, Battisti&Deakins, 2013). That is, the total number of employees in the firm (Roxas, Battisti&Deakins, 2013). Yuga (2014) defined firm size as the natural logarithm of total assets. He (Yuga, 2014) however acknowledged that firm size can also be defined based on its turnover, paid up capital, capital employed, and market capitalisation among others, which is an important financial measure of a firm's strength. This was confirmed by Sitti (2016) who asserts that the size of a firm places it in a better footing to penetrate the market. In addition, firm size has been defined by Iyappan and Ganesamoorthy (2017) as the volume of a firm's turnover. However, this study defines firm size in line with Yuga (2014) as the natural logarithm of total assets.

The age of a firm was defined by Claudio and Urs (2009) as the number of years elapsed from either the time of listing or that of incorporation. Also, Alex, Sven-Olov, and Daniel (2014) referred to firm age as the difference between a given year of observation and its year of a firm's incorporation. Furthermore, Elif (2016) defined firm age in two ways. The first of which referred to it as the number of years since the firm was first listed and called the listing age. The second definition which was in line with the definitions by Ofuan and Izien (2016); and Iyappan and Ganesamoorthy (2017) refer to firm age as the incorporation age, which is measured as the elapsed number of years from the firm's year of incorporation. This study

defines firm age as the number of years from the year a firm is listed on the floor of the Nigerian Stock Exchange.

Van-Oort and Raspe (2008) defined firm growth as the change in the rate of employment of labour. Equally, Haibo and Gerrit (2009) referred to firm growth as the increase in employment in a firm between two points in time. Luiz and Flavio (2009) viewed firm growth from two perspectives (total revenue and total assets). They refer to firm growth as either the change in the volume of total revenue or change in the value of total assets. Teng and Arslan (2012) defined firm growth in terms of its turnover. They refer to it as the percentage change in turnover from one year to the other. Firm growth according to Priya, Samapti and shiva (2013) was defined in terms of revenue generation, value addition of total assets, or volume of business. They observed access to financial resources, available manpower, and other firm's attributes as factors which influence the growth of a firm thereby making it different from others. This study however defines firm growth as the ratio of change in total assets.

Campbell and Ohuocha (2011) refers to tangibility as the state in which an asset is capable of being used as collateral to secure debt. They argued that tangible assets (also called real assets) are those assets whose values are determined based on some physical properties (eg building, machinery, land, and mine among others). In addition, Demisa (2013) defined tangibility as the ratio of fixed assets to total assets. She suggested further that tangibility enhances a firm's investment opportunity as it empowers the firm to obtain borrowed funds. Tangibility is defined in this study as the ratio of the value of a firm's total fixed assets over the total assets.

The concept of internal governance has been defined by Brown, Beekes and Verhoeven (2010) as those decisions and actions of a firm's shareholders and those of its board of

directors which are geared towards effective management of the firm's resources in order to protect investors' interests. Cremers and Nair (2006) identified block holders and board of directors as the primary monitoring mechanisms of internal governance. Similarly, Mediha, Asma, and Adel (2017) identified some features of the board of directors to include board independence, CEO duality, and board size. In addition, Nuhu (2017) pointed out that board of directors could be the primary mechanism for internal governance. The study (Nuhu, 2017) further identified board size, board independence, remuneration, CEO duality, and board committees' characteristics as the board mechanisms. For the purpose of this study, internal governance is proxied by board size, which is defined as the total number of members of the board of directors.

Market concentration has been defined by Enida and Vasilika (2013) as the number of active firms in an industry and their respective shares of the industry's total production or sales. The study further identified market concentration as a useful economic tool which shows the level of competition among firms in an industry and which largely depends on the number of firms in the industry and the extent of market control by each of the firms (Enida&Vasilika, 2013). According to Wanyama (2017), market concentration is defined as the domination of sales by a firm in an industry. The study identified Herfindahl Hirschman Index (HHI) as the most common measure of market concentration. The HHI is calculated by summing up the square root of the percentage market share of each individual firm in the industry. This study however defines market concentration as the ratio of annual turnover of individual firms over the industry's total annual turnover.

2.3 Review of Empirical Studies on Firm Attributes and Share Price

Firm attributes are often considered in many previous studies as those firm's internal factors which influence share prices. In this section, a review of empirical studies on firm attributes

(leverage, firm size, firm age, firm growth, tangibility, internal governance and market concentration) and share prices is carried out.

2.3.1 Leverage and Share Price

Prior studies have established mixed findings on the effect of leverage on share prices. Mondal and Imran (2010) evaluated the impact of liquidity, leverage, profitability, firm growth, market cap, dividend rate and capital share on the share prices using a sample of three of the listed firms on Dhaka Stock Exchange in Bangladesh. The study employed multiple regression technique and established that leverage has negative but insignificant association with share price. This finding may not be unconnected with the fact that a very small sample was used by the study. Uwalomwa, Olowe and Agwu (2012) used a sample of thirty firms listed on the Nigerian Stock Exchange to examine the effect of profitability dividend pay-out ratio (DPR), and leverage on share price for the period 2006 to 2010 using multiple regression technique. They found a significant negative influence of leverage on share price. However, the study used the ratio of debt to equity as a measure of leverage. This measure only reflects the proportion of one source of finance over the other, without relating it to the assets which have been financed because most investors would be interested in knowing the proportion of a firm's assets that can be taken by creditors in the event of unforeseen eventualities such as liquidation.

Also, Mehul and Varadraj (2013) examined the effect of profitability, firm size (FS), Liquidity, and leverage, on share prices using a sample of 3,027 manufacturing companies in India for the period 1991 to 2007. The study employed multiple regression technique and found that leverage has no statistically significant influence on share price. The outcome of the study may not be valid for policy decisions in the present economic condition because the period covered was even before the period of global economic crisis of 2008. Therefore,

extending the study to a more recent period may produce a different and better result which can be used for investment decision and policy making.

Ibrahim and Hussain (2015) employed panel data multiple regression technique and found the effect of leverage on stock returns as well as share price to be positive and statistically significant. The study evaluated the effects of market capitalisation (MCAP), leverage, and EPS on stock market returns using a sample of nine food and beverage firms listed on the floor of the Nigerian Stock exchange (NSE) for the period of seven years (2007 – 2013). The shortcoming of the study is that it used the ratio of long term debts to equity as a measure of leverage which might undermine the investors' decision making because only a part of the total debt has been considered in the measurement. Therefore, using the ratio of total debts to total assets might have produced a different or better outcome. In addition, Taimur, Harsh and Rekha (2015) assessed the effect of return on equity (ROE), book value per share (BVPS), dividend yield (DY), EPS, price-earning-ratio (P/E), and leverage on stock price by introducing firm size as a control variable. The study used a sample of forty-one companies listed on the Bahrain Stock Exchange for the period 2006 to 2010. They employed the pooled multiple regression technique and found that leverage has negative but insignificant influence on share price. However, since the study covered the firms listed on Bahrain Stock Exchange, the findings cannot be extended to the Nigerian manufacturing firms, hence the need for this study.

In addition, Mohammad and Usman (2016) obtained a sample of five listed pharmaceutical firms in Nigeria to examine the impact of some corporate attributes (FS, leverage, firm growth, profitability and liquidity) on share price for the period 2004 to 2013. The study employed multiple regression technique in the analysis of data. It was found that leverage has significant positive influence on share price. The shortcoming of the study is that it used the ratio of long term debts to equity as a measure of leverage which might undermine the

investors' decision making because only a part of the total debt has been considered in the measurement.

2.3.2 Firm Size and Share Price

Prior studies on the effect of firm size on share price have made varied findings. Nisa and Nishat (2011) used a sample of two hundred and twenty-one financial firms listed on the Karachi Stock Exchange for the period 1995 to 2006 to examine the influence of firm size on share price. The study used Generalised Method of Moments (GMM) technique and found that firm size has a positive but insignificant influence on share price. The study was conducted forfirms in Pakistan,and so, a different outcome may be expected from this study which focuses on non-financial sector in Nigeria.Also, Mehul and Varadraj (2013) examined the effect of earning per share (EPS), firm size (FS), Liquidity, leverage, and ROA on share prices using a sample of 3,027 manufacturing companies in India for the period 1991 to 2007. The study employed multiple regression technique and found that firm size has significant positive influence on share price. The outcome of the study may not be valid for policy decisions in the present economic condition because the period covered was even before the period of global economic crisis of 2008. Therefore, extending the study to a more recent period may produce a different and better result which can be used for investment decision and policy making.

Muhammad and Muhammad (2013) found a positive significant association between firm size and share price. They examined the association between some firm attributes of firm size, dividend yield, return on assets, and firm growth on one hand, and share price on the other hand using a sample of fifteen banks listed on the Karachi Stock Exchange for the period 2008 to 2011. They employed multiple regression technique in their analysis. However, the findings of this study may be criticized for covering a small time period. This is

in view of the fact that share price behaviour may be better understood if examined for a relatively longer period of time. In addition, the findings of the study may not be suitable for extension to Nigeria in view of the differences in economic conditions, regulatory frameworks and operating domain among others.

Mohammed (2014) examined the effect of firm attributes (DPS, EPS, BVPS, DPOR, P/E, and firm size) on the share price of listed bank on the Amman Stock exchange, taking a sample of seven banks for a period of seven years (2005-2011). The study employed multiple regression technique and found firm size to have significant negative influence on share price. However, the finding of the study may not be suitable for extension to the Nigeria manufacturing firms especially on the fact that it was conducted in the banking sector in Jordan. This study would therefore examine firm size in relation to share price in the listed manufacturing companies inNigeria.Additionally, Challa and Challam (2015) used a sample of four firms out of the listed firms in Bombay Stock Exchange in India for the period 2003 to 2013 to examine the impact of size among other firm attributes on the share prices of firms. The study used multiple regression technique and found that firm size has positive but insignificant influence on share price. However, the study was conducted using Indian firms, as a result, the findings may not be relevant in Africa, particularly Nigeria.In addition, Mohammad and Usman (2016) obtained a sample of five listed pharmaceutical firms in Nigeria to examine the impact of some corporate attributes (FS, leverage, firm growth, profitability and liquidity) on share price for the period 2004 to 2013. The study employed multiple regression technique in the analysis of data. It was found that firm size has significant positive influence on share price. However, the findings of the study may be insufficient for generalisation in the Nigerian manufacturing sector because it concentrated on only one subsector.

2.3.3 Firm Age and Share Price

Mondal and Imran (2010) found that firm age has positive but insignificant association with share price. The major shortcoming of the study is the use of a very small sample size, which might be the reason for the finding of insignificant association. Akeem (2014) found that firm age has positive but insignificant influence on share price. The study used a sample of eight deposit money banks listed on the Nigeria Stock Exchange and evaluated the impact of some firm attributes (EPS, BVPS, DPS, change in EPS, firm size, and firm age) on share prices and share returns for the period of nine years (2004 to 2012). The study developed two models (price model and return model) and employed multivariate regression technique in the analysis of data. Because this study focused on the Nigerian deposit money banks, its findings cannot be extended to the Nigerian manufacturing firms, hence the need for this study.

Furthermore, Oliver (2015) used panel data multiple regression technique and produced the empirical evidence that firm age has positive but insignificant influence on share price. The study obtained a sample of four banks listed on the floor of the Nigerian Stock Exchange and evaluated the impact of firm attributes on the share prices for the period 2004 to 2013. The shortcoming of this study is that, it used a very small sample size which may not produce findings that would be sufficient for generalisation even within the Nigerian banking sector.

Shamki and Khalaf (2016) used a sample of ninety-one companies in the service and industrial sectors in Jordan for the period 2004 to 2013 to examine the influence of firm age on share price. Three price models were used to measure share price: i) based on average annual share price, ii) based on annual closing share price, and iii) based on after three months share price. The study used multiple regression technique and found that firm age has significant positive influence on share price. The study also established that closing price is the most dependable proxy of share prices. The study was conducted for Jordan firms;

therefore, a different outcome is expected from this study which will focus on the Nigerian context.

2.3.4 Firm Growth and Share Price

Prior studies have established some findings on the impact of firm growth on share price. For instance, Chowdhury and Chowdhury (2010) evaluated the impact of firm growth and other firm attributes on the share prices using a sample of seventy-seven non-financial companies listed on both Dhaka and Chittagong Stock exchanges in Bangladesh for the period 1999 to 2003. The study employed multiple regression technique and established that firm growth has negative but insignificant association with share price. This finding may not be valid for informed decision in the present day considering the fact that the terminal year of the study was 2003, and some economic events such as the global financial crisis of 2008 have taken place after the period covered by the study. Mondal and Imran (2010) evaluated the impact of firm growth and other firm attributes on the share prices using a sample of three out of all the listed firms in Dhaka Stock Exchange in Bangladesh. The study employed the multiple regression technique and established that firm growth has positive significant influence on share price. The major shortcoming of this study is that a very small sample size was used, hence the findings may not be valid for generalisation.

Furthermore, Muhammad and Muhammad (2013) found a negative and insignificant association between firm growth and share price.However, the findings of this study may be criticized for covering a small time period. This is in view of the fact that share price behaviour may be better understood if examined for a relatively longer period of time. More again, Safdar, Hazoor, Toheed, and Ammara (2013) documented that firm growth has no significant influence on share price. They studied a sample of 307 financial firms listed on the Karachi Stock Exchange for the period of thirteen years (2000-2012) using multiple

regression to establish the linkage between some factors namely, market capitalisation, firm growth, EPS and book to market value and their influence on share price. However, apart from the geographical differences, the findings of the study cannot be extended to the Nigerian manufacturing firms because it focused on the firms in the financial sector which have different operational peculiarities, hence the need for this study. Also, Mohammad and Usman (2016) found that firm growth has significant positive influence on share price. This finding may not be suitable for generalisation on the Nigerian manufacturing firms owing to the fact that the study was concentrated on only one subsector.

It can be seen from the above that findings from the previous studies on the relationship between firm growth and share price are faced with varied pitfalls. This may be as a result of differences in research approach, research domain, and disparity in political settings.

2.3.5 Tangibility and Share Price

Tangibility is the ratio of a firm's fixed assets to its total assets.Tangibility is a factor within the firm which is capable of exerting some influence on share price. Prior studies did not examine the impact of tangibility on share price, but some have evaluated the impact of net assets on share price. For instance, Reaz, Zahidur Rahman, and Hussain (2013) conducted annual time series analysis of data obtained from a sample of seventy-two companies in the financial sector listed in Dhaka Stock Exchange to assess the impact of NAPS, P/E, net assets value, and EPS for the period 2005 to 2011. The study employed multiple regression technique and established that net assets value has significant positive influence on share price. The major limitation suffered by the study is the conduct of time series analysis for many firms without considering their respective peculiarities which would have yielded a more meaningful result if a cross-sectional analysis had been done.

Vijitha and Nimalathasan (2014) investigated the effect of earnings per share, net assets value per share, return on equity, and price-earnings ratio on share prices of manufacturing companies on the Colombo stock Exchange (CSE). The study used a sample of twenty manufacturing companies listed on the CSE, Sri Lanka for the period 2008 to 2012. The analysis conducted using panel multiple regression technique revealed that net asset per share has a significant positive influence on share price. However, the study also used the data for total net assets which created the motivation for us to use tangibility in our study. Similarly, Edirin, and Godsday (2015) documented the empirical findings that net asset per share (NAPS) has a significant positive influence on share price. They studied a sample of 120 firms listed on the Nigerian Stock Exchange for the period of thirteen years (2001-2013) using multiple regression to establish the linkage between the firms' attributes (EPS & NAPS) and share price. However, apart from the fact that the study used net assets instead of tangibility, its findings cannot be extended to the Nigerian manufacturing firms because it focused on all firms listed on the NSE and ignoring the sectorial specific peculiarities. This creates the need for a study of the nature.

Furthermore, Sujeewa (2016) used multiple regression technique and produced the empirical evidence that NAPS have significant positive influence on share price. The study obtained a sample of twenty manufacturing firms listed on the Colombo Stock Exchange and evaluated the impact of some firm attributes namely, EPS, NAPS, and DPS on share prices for the period 2010 to 2014. However, the findings of the study may be spurious in view of the biasness which might exist in the collection of the primary data which was done using questionnaire for firm attributes whose data are better obtained from the financial statements.

It is clear from the foregoing that all the studies focused on net assets value in relation to share prices, apart from the differences in research domain, as well as disparity in regulatory

framework across different countries. It is therefore imperative to examine the research phenomena focusing on the impact of tangibility on share prices.

2.3.6 Internal Governance and Share Price

Board size has been identified earlier in this study to serve as a proxy for internal governance. However, only few studies have examined the effect of board size on share price. For instance, Banderlipe (2013) investigated the impact of board size, independence, CEO duality, and board ownership on share price using a sample of thirty-six listed holding companies on the Philippines Stock Exchange for the year 2009. The study employed multivariate regression technique using a cross-sectional analysis and found that board size has a significant negative effect on share price. The findings of this study may be faulty in view of the fact that share price is a variable whose behaviour needs to be examined for relatively longer period for a better understanding, rather than for only one year.

In addition, Ibrahim and Salihu (2015) found that board size has negative but insignificant influence of share price. The study sampled six out of the eight listed firms in the Nigerian Chemical and Paints industry for the period of nine years (2004-2012) and employed the panel multiple regression technique to evaluate the effect of corporate attribute of board size on share prices. However, the findings of the study may be insufficient for generalisation in the Nigerian manufacturing sector because it concentrated on only one subsector.

Furthermore, Hamidu and Aliyu (2015) found that board size has negative and insignificant effect on share price. The study employed multiple regression technique in establishing the relationship using a sample of six companies drawn from the Nigerian Chemical and Paints industry for the period of 2004 to 2012. The findings of the study may be faced with the limitation of using dichotomous scale to measure the existence of internal governance rather than the absolute numbers of the board members.

In addition, Mediha, Asma, and Adel (2017) assessed the impact of some factors (including managerial ownership, institutional ownership, ownership concentration, board independence, CEO duality, board size, firm size, and ROA) on share price using a sample of sixty-five (65) companies listed on the Paris Stock Exchange for the period of 2010 to 2012. The study employed multivariate regression technique in the analysis which revealed that board size has negative significant influence on share prices in all the four models specified therein. The findings of the study may however not be suitable for extension to the Nigerian manufacturing sector, owing to the differences in the operating domain, economic conditions and geographical barriers among other factors.

It can be seen from the above that there is still a dearth of studies which examined the relationship between board size and share price. This therefore creates the vacuum and motivation for further assessments.

2.3.7 Market Concentration and Share Price

Market concentration as defined earlier in this study refers to the ratio of annual turnover of individual firms over the industry's annual turnover. As also noted earlier, market concentration is a factor which is expected to influence a firm's share price. It has been discovered that no study has examined market concentration in relation to share prices. However, some studies only concentrated on evaluating the effect of some profitability ratios on share price. Some of such studies include Adekunle, Agbadudu, and Ammeh (2015) which assessed the impact of earning per share, return on assets, inflation rates, and GDP on share price. The study sampled five firms from the Nigerian insurance industry for the period of 2005 to 2014. Using panel multiple regression technique, the study found that return on assets has positive but insignificant effect on share price. Also, Ijeoma (2015) found that return on equity has significant positive influence on share price. The study employed multiple

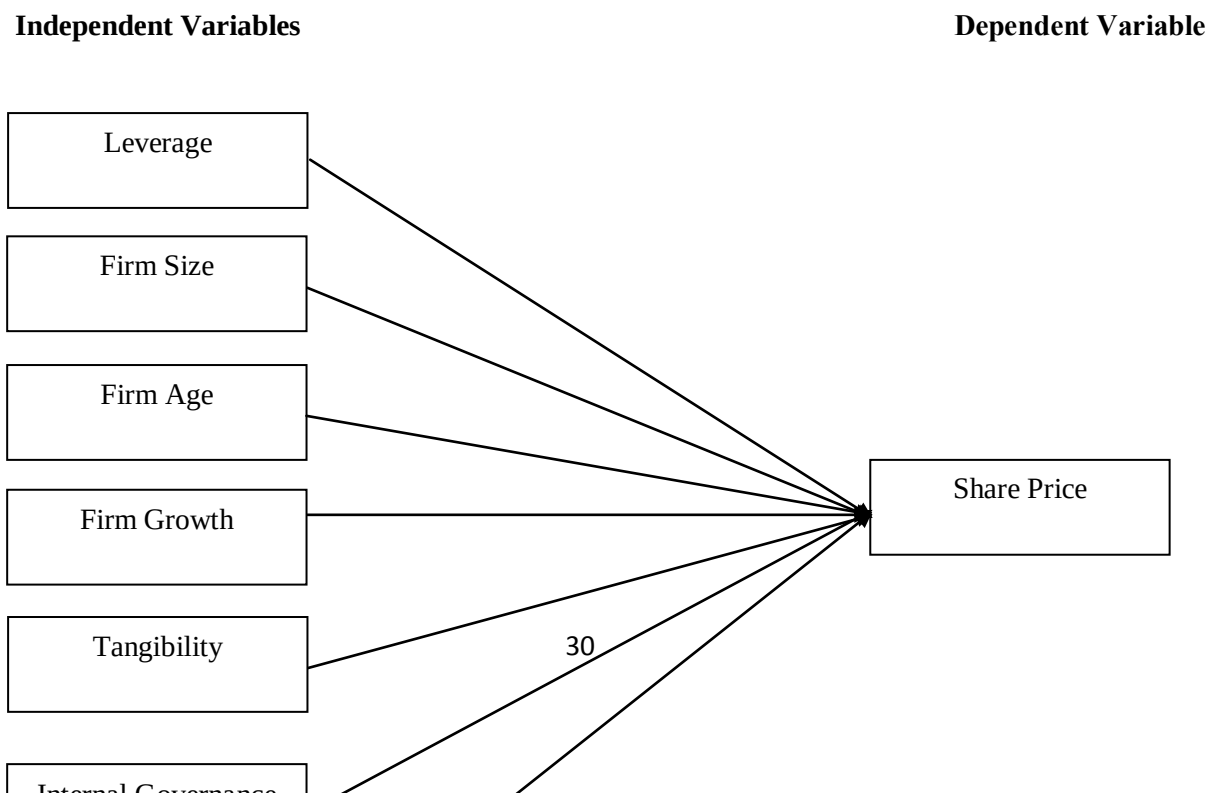
regression technique in the analysis of the data drawn from a sample of one hundred and twenty (120) firms listed on the Nigerian Stock Exchange for the period of 2001 to 2013.

In addition, Olaoye, Olayinka, Ajibade and Akinyemi (2016) assessed the impact of some factors (dividend per share, earning yield, dividend yield, and return on total assets) on share price volatility using a sample of five (5) firms drawn from the Nigerian Manufacturing sector for the period of 2005 to 2014. The study employed panel multiple regression technique in analysing the relationships which revealed that return on total assets has positive but insignificant impact on share price volatility.

In view of the above and owing to the fact that most studies focused more on the relationship between profitability indices (rather than market concentration) and share prices, it therefore becomes pertinent and expedient to assess the relationship between market concentration and share prices, especially considering the competitive nature of the Nigerian manufacturing sector as pointed out earlier in this study.

2.4 Theoretical Framework

The diagram below is the theoretical framework which shows the relationship among the variables of the study.



The theories which better explain the nexus between firms' attributes and share price are the Efficient Market Hypothesis (EMH) and Signalling Theories. Debate has continued to exist among researchers and investors as to whether the market is efficient (Ganna& Cornelia, 2016). The efficient market hypothesis (EMH) was developed by Fama (1970) who defined efficient market as that market which reflects all available news and information, and in which new information is quickly absorbed and used to adjust stock prices. The main assumptions of the EMH are: a large number of investors analyse and value securities for profit; new information comes to the market independent from other news and in a random fashion; stock prices adjust quickly to new information; and stock prices should reflect all available information (Ojo, 2008). Fama (1970) grouped the information items into three levels depending on how quickly the information is reflected in the share prices: weak form EMH; semi strong form EMH; and strong form EMH.

2.4.1 The Weak Form EMH: This form suggests that current share prices reflect all past market information, as a result of which historical information on prices would not be useful for forecasting the future value of shares. Yusuf, Ibrahim, and Alabede (2015) suggest that this form of EMH is the one in which current share price reflect all the stock market information including the historical trend of prices and any volume of information. Ojo

(2008) posit therefore that this form of EMH prevents investors from earning above average returns by gaining monopoly of access to any information.

2.4.2 The Semi-Strong Form EMH: This form of EMH suggests that current prices of shares do not only reflect the historical share price information, but also reflects all publicly available information. Yusuf, Ibrahim, and Alabede (2015) assert that this form of EMH is such in which current share prices reflect all available publicly and privately existing information.

2.4.3 The Strong Form EMH: The strong form EMH posits that share prices reflect both public and private information. This form seems to be more concerned with the disclosure efficiency of the information on market than the pricing efficiency of the securities market (Yusuf, Ibrahim, &Alabede, 2015). The strong form EMH holds that both publicly and privately available information cannot be useful for earning superior returns on shares. By this, Ojo (2008) suggests that if the Nigerian Stock Market were efficient in strong form, not even the insider would have been able to profit from his privileged position because the market would have already used its price adjustment mechanism to incorporate the information.

From the foregoing, it can be argued that the Nigerian Stock Market is efficient in semi-strong form as suggested by previous studies. For instance, Olowe (1999) concluded that the Nigerian stock market which is one of the engines to economic growth appeared to be efficient in the semi-strong form. Okpara (2010) also posits that Nigerian stock market can be concluded to be efficient in the semi-strong form based on research.

Efficient Market Hypothesis has been widely used by accounting and finance researchers (such as Umar &Isiak, 2009; Hassan, 2015; and Ganna& Cornelia, 2016) to explain and

understand the relationship between share prices and factors influencing them in both developed and developing economies.

Miller and Modigliani (1961) presented another theory known as signalling theory. They are of the view that managers may use the dividend policy as a signal to present the true inside information of the financial position and growth of the firm otherwise they can hold information. The stakeholders may have information but managers are the persons who are working to maximize the wealth of the shareholders and they know more about the firm. Miller and Rock (1985) stated that investors considered dividend announcement as a tool to assess the earning ability of the firm. One of the most important financial impact is the signalling effect of accounting numbers and other features of the firm arising from information asymmetries between management and outside investors (Copeland and Weston, 2005). Also, Capstaff, Klæboeand Marshall 2004 tested the signalling theory by investigating the share price reaction to the release of accounting numbers on the Oslo Stock Exchange (OSE), and subsequent changes in the cash flows of the firms involved. The paper adds to existing evidence by examining the role of accounting numbers in a market where the corporate ownership structure is notable different from the U.S and the U. K., and where the motivation to use accounting numbers as a signalling mechanism appears to be stronger. The results indicate significant abnormal stock returns are associated with the release of accounting numbers. This evidence provides modest support for the signalling theory of accounting numbers in Norway. Significant abnormal share price and returns are present on the release of both the positive and negative changes in accounting numbers. Signalling theory has been widely used by accounting and finance researchers (such asShorab 2009 andSaif 2010) to explain and understand the nexus between share prices and factors influencing them.

In this study, consistent with prior studies, the nexus between share prices and firm attributes of leverage, firm growth, tangibility and market concentration will be anchored by the Efficient Market Hypothesis, while Signalling theory will underpin the relationship between share prices and the remaining firm attributes of firm size, firm age, and internal governance.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology of the research. It highlights the research design of the study, population and sample of the study, as well as the sources and method of data collection. It also highlights the techniques and tools of data analysis. Additionally, the chapterdescribes the variables of the study and their measurements. Finally,the chapter presents the model specification.

3.2 Research Design

This study employed the correlational research design to describe the statistical relationship between firm attributes and share prices of listed manufacturing firms in Nigeria. In establishing relationships, correlational study measured the association of two or more variables. The choice of this design was motivated by the fact that the research paradigm is positivism. The correlation research design enables the researcher to test the adopted theory against the large sample observations with the view to assessing the statistical relationship between or among the variables of the study and to make generalisation on the entire population of the study based on the findings. This design was adopted in line with Eiman and Michelle (2012) who noted that correlation research design would be the most appropriate where positivism asresearch paradigm is associated with scientific, experimental, quantitative and deductive frameworks, and where researchers obtain specific quantifiable observations thereby making regular use of statistics and experiments to test their hypotheses. This study therefore finds the correlation research design more appropriate to employ since it is aimed at investigating the influence of firms' attributes on share prices of the manufacturing companies in Nigeria.

3.3 Population and Sample of the Study

The population of the studycomprised all the 69 manufacturing firms listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2016. The firms are classified into five subsectors namely Agriculture (five firms), Conglomerates (six firms), Consumer goods (twenty-seven firms), Healthcare (eleven firms), and Industrial goods (twenty firms). The study adopted two criteria in order to arrive at the sample. Firstly, the firm must have been listed on the NSE on or before January, 2008; and secondly, the firm must have its share price quoted on the price list at the end of each of the first three quarters of the post balance sheet year annually. Consequently 37 firms were eliminated, leaving 32 firms. Based on the filters mentioned, only the 32 firms were employed for analysis. The lists of firms which

made up the population and sample of the study are attached in AppendicesI(a) and I(b) respectively.

3.4 Sources and Method of Data Collection

The data for this study were derived from secondary sources. Data on the dependent variable (share price) were extracted from the Nigerian Stock Exchange (NSE) daily price lists. In addition, data on the independent variables, that is, firm attributes (leverage, firm size, firm age, firm growth, tangibility, internal governance, and market concentration) were extracted from the audited annual financial statements of all the sampled manufacturing firms. Secondary data were considered sufficient in view of the nature of the variables under study. This is because collecting data through questionnaire or interview in respect of the selected firm attributes and share price may attract a lot of response bias.

3.5 Technique of Data Analysis

This study used the descriptive statistics to summarise the data, and to describe and understand the basic features of the data in the study. Also, correlation analysis was conducted to explain the relationship between the independent and the dependent variables and also the association among all pairs of independent variables themselves. The study also used Panel Multiple Regression Technique to examine the impact of firm attributes on share prices. The studyalso employed the Hausman Specification Test to determine the best model to be used between fixed effect and randomeffect regressions. This test became necessary owing to the fact that there is a trade-off between the efficiency of the random effect approach and the consistency of the fixed effect approach. The fixed effect model removes the effect of those time-invariant characteristics from the predictor variables in order to assess the predictors' net effect, while the random effect model assumesthat the unobserved heterogeneity should not be correlated with the independent variables. Based on the result of

the Hausman Specification Test, the study conducted the Breusch and Pagan Langrangian multiplier test for random effects, which provided the basis for interpreting the random effects GLS regression results. The employment of this technique is in line with the works of Jimoh (2009), and Uwalomwa, Olowe, and Agu (2012).

3.6 Robustness Tests

Variance inflation factor and tolerance value tests were conducted to check for multicollinearity among the individual independent variables included in the model. Also, the Breutsch-Pagan/Cock-Weisberg test for heteroskedasticitywas employed to check for the fitness of model and reliability of findings. These robustness tests were conducted in line with the studies conducted by Uwalomwa, Olowe, and Agu (2012), and Edirin and Godsday (2015). STATA software was used as the tool for data analysis.

3.7 Variables and their Measurements

The measurements of both dependent variable (share price), and the independent variables (leverage, firm size, firm age, firm growth, tangibility, internal governance, and market concentration) of this study are done as contained in the following table 3.1:

Table 3.1: Variables Measurement

Variables	Type	Operationalisation	Source
Share price	Dependent	Average of quarterly closing prices of the first three quarters of the post balance sheet year.	
Leverage	Independent	$\frac{\text{Total debts}}{\text{Total assets}} \times 100$	Taimur, Harsh, and Rekha (2015).
Firm size	Independent	Natural Log. of total assets	Yuga (2014).
Firm age	Independent	Number of years from the year a firm is Listed in the NSE	Akeem (2014).
Firm growth	Independent	$\frac{\text{Closing total assets - Opening total assets}}{} \times 100$	Mian,

		Opening total assets	Muhammad, and Farhan (2010).
Tangibility	Independent	Total Property Plants &Equipt.x 100 Total assets	Campbell and Ohuocha (2011).
Internal Governance (Board size)	Independent	Total number of directors on the Board of Directors	Nuhu (2017)
Market Concentration	Independent	Annual turnover of individual firm x 100 Total annual turnover of the industry	Enida&Vasilika (2013)

Source: Compiled by author, 2017

3.8 Model Specification

The following linear function was derived between the dependent and independent variables in order to specify the model of the study.

SP = *f*(*LEV, FSIZE, FAGE, FGRWTH, TANG, INT_GOV, MKT_CONC)*

Following Kanwal (2012), and Mohammad (2014), the regression model to test the effect of the selected constructs of firms' attributes on share prices of manufacturing firms in Nigeria is specified as follows:

$$SP = \beta_0 + \beta_1 LEV_{it} + \beta_2 FSIZE_{it} + \beta_3 FAGE_{it} + \beta_4 FGRWTH_{it} + \beta_5 TANG_{it} + \beta_6 INT\_GOV_{it} + \\ + \beta_7 MKT\_CONC_{it} + \varepsilon_{it}$$

Where:

SP = Share price

LEV = Leverage

FSIZE = Firm size

FAGE = Firm age

FGRWTH = Firm growth

TANG = Tangibility

INT_GOV = Internal governance

MKT_CONC= Market concentration

β_0 = Constant term

$\beta_1 - \beta_{10}$ = Parameters to be estimated

it = Firm i at time t

ε = Error term

CHAPTER FOUR
RESULT PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents, interprets, and discusses the results obtained from the data. The chapter begins with descriptive statistics, skewness and kurtosis test for normality, and correlation analysis of the variables. This is followed by the presentation and discussion of the regression results and test of hypotheses. The chapter concludes with discussion of findings of the study and policy implications of the findings.

4.2 Descriptive Statistics

The summary of the descriptive statistics of the variables are presented in Table 4.1. The full result is contained in appendix II(a).

Table 4.1: Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Minimum	Maximum
SP	277	47.2280	134.3288	0.5000	1096.6700
LEV	277	57.9943	33.8742	3.9885	386.8300
FSIZE	277	45339.3000	71058.2300	759.1080	537598.0000
FAGE	277	29.3538	11.2809	2.0000	55.0000
FGRWTH	277	16.6506	33.7580	-61.0885	238.4530
TANG	277	43.1466	20.4177	3.1127	87.1863
INT_GOV	277	9.8195	2.3258	5.0000	17.0000
MKT_CONC	277	3.2317	4.7544	0.0037	21.7314

Source: Stata Output, 2018

The result from Table 4.1 shows that the mean value of SP is 47.22 with a standard deviation of 134.33. This shows that the average share price of the sampled firms over the study period was ₦47.22. It also indicates from the standard deviation of 134.33 that there is wide variation in the share prices across the sampled firms, which is further attested to, by the minimum share price of ₦0.50 and maximum of ₦1,096.67. LEV has a mean of 57.99 with standard deviation of 33.87. This implies that the average leverage of the sampled firms is 57.99%, indicating that for every ₦100 used to finance a firm's business activities, ₦57.99 is obtained through debts. It also implies that more debts are used than equity in financing the businesses of the sampled firms. In addition, leverage has a standard deviation of 33.87 indicating a moderate level of heterogeneity in the leverage across the sampled firms. The minimum leverage of 3.98% and its maximum of 386.83%. Furthermore, FSIZE hasa mean value of 45,339.30. This implies that the average size of the sampled firms is ₦45.33billions. FSIZE also has a standard deviation of 71,058.23.The standard deviation signifies that the

sizes of the sampled firms are widely dispersed, as can be further affirmed by the minimum size of 759.10 and a maximum of 537,598.

The mean value of firm age is 29.35. This implies that the sampled firms are averagely aged 29years. Also, the standard deviation of FAGE is 11.28 signifying a small variation in the ages of the sampled firms. The minimum FAGE is 2.00, meaning that the youngest firm as at the beginning of the period of this study (2008) was 2 years old. Whereas the maximum FAGE is 55 signifying that the oldest among the sampled firms as at the end of the period (2016) was 55 years old. Furthermore, the mean value of FGRWTH is 16.65. This shows that the sampled firms grow averagely at 16.65% annually. However, the standard deviation of FGRWTH is 33.75 signifying a very wide variation in the growth rate of the sampled firms. This disparity in the firms' growth rate can be clearly observed from the minimum growth of -61.08% and a maximum of 238.45%.

TANG exhibits a mean value of 43.15, an indication that the fixed assets of the sampled firms represent 43.15% of their total assets. This implies that manufacturing firms in Nigeria invest more funds in current assets than fixed assets. Also, the standard deviation of TANG is 20.41 showing that there is a great disparity in tangibility across the sampled firms. This disparity can further be explained using the minimum and maximum values of tangibility which are 3.11% and 87.18% respectively. Further, INT_GOV shows a mean value of 9.81 with a standard deviation of 2.32. This means that averagely, the sampled firms have nine members in their Board of Directors. It is also indicated by the standard deviation of 2.33 that no much variations exist in the board size across the firms. The minimum value of INT_GOV is 5 with a maximum of 17. Lastly, MKT_CONC shows a mean value of 3.23 with a standard deviation of 4.75 indicating that the average share of each of the firms turnover relative to the industry's turnover is 3.23%. The standard deviation of 4.75 indicates a small disparity in the

MKT_CONC across the sampled manufacturing firms in Nigeria. The minimum value of MKT_CONC is 0.0037% with a maximum of 21.73%.

4.3 Normality Test

The skewness/kurtosis test for normality is aimed at establishing whether or not, the variables of the study are normally distributed. Theresult of this test is presented in the Table 4.2 below. The full result is contained in Appendix II(b).

Table 4.2: Skewness/Kurtosis Test for Normality

Variables	Obs.	Pr(skewness)	Pr(kurtosis)	adj chi^2	Probability
SP	277	0.0000	0.0000	0	0.0000
LEV	277	0.0000	0.0000	0	0.0000
FSIZE	277	0.0000	0.0000	0	0.0039
FAGE	277	0.0000	0.6444	16.18	0.0003
FGRWTH	277	0.0000	0.0000	0	0.0000
TANG	277	0.4181	0.0000	17.55	0.0002
INT_GOV	277	0.0014	0.7619	9.34	0.0094
MKT_CONC	277	0.0000	0.0000	0	0.0000

Source: Stata Output, 2018

From table 4.2, it can be observed that the probabilities of skewness for all the variables are significant at 1% except for TANG which is insignificant. Also, apart from FAGE and INT_GOV which are insignificant, the probabilities of kurtosis for all other variables are significant at 1%. In addition, the joint probabilities are significant for all the variables. This indicates that all the variables are not normally distributed. However, non-normality of data is generally believed do not affect the validity of estimations with regression based on Gauss-Markov Theorem as explained by Shao (2003). It though points to the need for caution when

taking decision based on the result. In order to correct non-normality, robust estimation is often used.

4.4 Correlation Analysis

The Pearson correlation analysis matrix shows the relationship between the explanatory and the explained variables and also the relationship among all pairs of independent variables themselves. It is useful in discerning the degree or extent of relationship among all independent variables as excessive correlation could lead to multicollinearity, which could consequently lead to misleading findings and conclusions. The correlation matrix does not lend itself to statistical inference but it is relevant in deducing the direction and extent of association between the variables. Table 4.3 presents the correlation matrix for all the variables. The full result is attached as Appendix II(c).

Table 4.3: Correlation Matrix

Variables	SP	LEV	FSIZE	FAGE	FGRWTHTANGINT_GOV	MKT_CONC
SP	1.0000					
LEV	0.0411	1.0000				
FSIZE	0.3193	-0.1509	1.0000			
FAGE	0.2236	0.2211	-0.0405	1.0000		

FGRWTH	0.0238	-0.0306	0.0638	-0.1753	1.0000			
TANG	0.1878	0.0571	0.2897	-0.0812	0.0179	1.0000		
INT_GOV	-0.0372	-0.1581	0.4339	-0.0076	0.0343	0.1720	1.0000	
MKT_CONC	0.3116	-0.0205	0.6818	0.1465	0.0044	0.0815	0.5523	1.0000

Source: Stata Output, 2018

In correlation analysis, high level and strong form of relationship between dependent and individual independent variables are expected while low level and weak form of relationship between and among independent variables are expected. According to Gujarati and Porter (2009), a correlation coefficient between two independent variables above ±0.80 suggests presence ofmulticollinearity. From Table 4.3, it can be seen that all correlation coefficients are below 0.80,indicating that the variables are well selected and can fit in the same regression model. The table reveals that there is a positive correlation between the dependent variable, SP and six of the explanatory variables: LEV, FSIZE, FAGE, FGRWTH, TANG and MKT_CONC with coefficients of 0.04, 0.32, 0.22, 0.02, 0.19, and 0.31 respectively. This implies that the six explanatory variables move in the same direction with SP, which means that the higher their values the higher the share price. In addition, as these explanatory variables increase at individual levels, SP also increases proportionately. The table however reveals that INT_GOV exhibit negative correlations with SP, with coefficient of -0.04. This means that this explanatory variable and the outcome variable move in opposite directions. Thus, as the variable increases SP declines.

With respect to the association among the independent variables themselves, LEV is found to have weak and inverse correlation with FSIZE, FGRWTH, INT_GOV and MKT_CONC, while it is positively and weakly correlated with FAGE and TANG.Also, FSIZE is found to have positively weak correlation with FGRWTH, TANG, INT_GOV but with a relatively strong positive correlation with MKT_CONC while it shows a weak negative relationship

with FAGE. More so, FAGE is found to be weakly and inversely correlated with FGRWTH, TANG and INT_GOV, while it is positively correlated with MKT_CONC. Furthermore, FGRWTH reveals positively weak relationship with both TANG, INT_GOV and MKT_CONC. Also, TANG is found to have positively weak correlation with both INT_GOV and MKT_CONC. Lastly, INT_GOV is positively associated with MKT_CONC.

It is noteworthy that the highest absolute correlation coefficient among the explanatory variables is the one between FSIZE and MKT_CONC, which is approximately 0.68 and the lowest absolute degree of association is that which is between FGRWTH and MKT_CONC at 0.004. The rather mild correlation between the pairs of independent variables indicates that they can exist in the same model without raising concern on harmful correlation or problem of multicollinearity.

4.5 Robustness Tests

The two robustness tests conducted in this study are multicollinearity and heteroskedasticity tests. These tests are important to in order to satisfy the assumptions of the Ordinary Least Square (OLS) of homoskedasticity and absence of exact correlations among the independent variables in the model. Table 4.4 shows the results of the variance inflation factor (VIF) and tolerance value (TV).

The VIF and TV are two advanced measures used in addition to the Pearson correlation matrix to assess the presence or absence of multicollinearity between the explanatory variables. The output generated using STATA is attached as Appendix II(e).

Table 4.4: VIF and Tolerance Values

Variables	VIF	1/VIF
LEV	1.13	0.8832

FSIZE	2.23	0.4481
FAGE	1.14	0.8745
FGRWTH	1.04	0.9648
TANG	1.17	0.8528
INT_GOV	1.53	0.6527
MKT_CONC	2.50	0.4001

Source: Stata Output, 2018

From table 4.4, the VIF and TV are found to be consistently smaller than 10 and above 0.10 respectively indicating the absence of harmfulmulticollinearity as suggested by Neter,Nachtsheim and Wasserman (1996), Tobachnick and Fidell (1996) and Cassey and Anderson (1999). The low mean VIF is also a pointer to the mild correlation among the regressors. This shows the appropriateness and fitness of the explanatory variables used in the model.

Table 4.5 shows the result of the Breusch-Pagan or Cook-Weisberg test which was was used to test for the existence of heteroskedasticity (see Appendix II(e)). The null hypothesis in this test assumes that the variance of the residuals is constant. If the p-value is significant, then there is substantial evidence to reject the null hypothesis indicating the presence of heteroskedasticity.

Table 4.5: Breusch-Pagan/Cook-Weisberg Test of Heteroskedasticity

Test Summary	Cross-section Random
Chi^2	480.43
Probability	0.0000

Source: Stata Output, 2018

Table 4.5 reveals a chi^2 value is 480.43 and a p-value of 0.0000 which is significant at 1% signifying the presence of heteroskedasticity.In line with the suggestion of Gujarati and Porter (2009), to correct this problem of heteroskedasticity, both fixed effect and random effect regression analyses were conducted. This was followed by Hausman Specification test. The result of the Hausman specification test is presented in Table 4.6 as also contained in Appendix II(g).

Table 4.6: Hausman Specification Test

Test Summary	Cross-section Random
Chi^2	4.60
Probability	0.7081

Source: Stata Output, 2018

The result shown in Table 4.6 reveals a chi^2 value of 4.60 and a p-value of 0.7081 which is not statistically significant. This result therefore favours the use of random effects regression to draw logical and statistical inferences. On this basis, the Breusch and Pagan Langrangian multiplier test for random effects was conducted. This test reveals a $chibar^2$ value of 534.76 and a p-value of 0.0000 which is significant at 1%. The result of this test provided the basis for interpreting the random effects GLS regression results.

4.6 Presentation and Discussion of Regression Results

In this section, the random effects GLS regression result is presented. This is followed by hypotheses testing and discussion of policy implication of the findings. The summary of the random effects GLS regression result is presented in Table 4.7 while the full result is attached as Appendix II(f).

Table 4.7: Summary of Random-Effects GLS Regression

Variables	Coefficients	z-values	p-values
LEV	0.0088	0.0500	0.9600
FSIZE	195.2497	2.3000	0.0210
FAGE	2.0554	1.6500	0.0990
FGRWTH	-0.0630	-0.4900	0.6220
TANG	0.1122	0.3900	0.6980
INT_GOV	-6.1721	-1.7800	0.0750
MKT_CONC	6.7302	2.0600	0.0400
CONS.	-259.5875	-2.2300	0.0260
R-Squared (R^2)	0.1988		
Wald Chi^2	26.17		
Probability	0.0005		

Source: Stata Output, 2018

Table 4.7 indicates that the explanatory variables included in the model account for approximately 20% of the variations in SP, while the remaining 80% are controlled by other factors that are not included in the model. The wald chi^2 value of 26.17, which is significant at 1% confirms the fitness of the model and therefore provides substantial evidence that firm attributes have significant impact on the share prices of listed manufacturing companies in Nigeria. Substituting the coefficients of the variables in the regression equation gives the following:

SP = -259.5878+ 0.0088LEV + 195.2497FSIZE + 2,0554FAGE – 0.0630FGRWTH + 0.1122TANG – 6.1721INT_GOV + 6.7301MKT_CONC

Table 4.7 shows that leverage (LEV) has a coefficient of 0.0088 with a p-value of 0.96 which is insignificant. This implies that LEV has positive but insignificant effect on share price of listed manufacturing firms in Nigeria. It also connotes that when there is an increase in the level of leverage by one point, the share prices of listed manufacturing firms only rises by

0.0088. This result is however contrary to our a priori expectation, and the reason may not be far from the fact that some of the manufacturing firms do not employ much debt in their financing. Even though, the descriptive statistics has shown that Nigerian manufacturing firms averagely employ higher debts than equity, it also reveals that some of the firms are levered as low as 3.9%. The result also suggests that investors do not often factor in the level of a firm's leverage in their investment decisions. The finding is in line with that of Mehul and Varadraj (2013). The finding is however, contrary to the studies of Mondal and Imran (2010), Uwalomwa, Olowe and Agwu (2012) and Taimur, Harsh and Rekha (2015).

The result also shows that firm size (FSIZE) has a coefficient of 195.24 and a p-value of 0.02 which is statistically significant at 5%. This means that FSIZE has positive significant influence on the share price of listed manufacturing companies in Nigeria. It also connotes that a one-point increase in FSIZE would lead to 195.25 points rise in share prices. The finding conforms to our apriori expectation and also consistent with the findings of Mehul and Varadraj (2013), Muhammad and Muhammad (2013), and Mohammad and Usman (2016). On the contrary, the finding did not support those of Nisa and Nishat (2011), Mohammed (2014) and Challa and Challam (2015). The finding is also in line with the theory of Signalling theory.

Table 4.7 also shows that firm age (FAGE) has a coefficient of 2.055 and a p-value of 0.099 which is significant at 10%. This signifies that FAGE is positively and significantly influencing the share price of listed manufacturing firms in Nigeria. It also implies that a one-point increase in the firm age results in the rise in share prices of listed manufacturing firms by 2.05 points. This finding is in line with the finding of Shamki and Khalaf (2016), and contrary to those of Mondal and Imran (2010), Akeem (2014), and Oliver (2015).

Furthermore, the result shows that firm growth (FGRWTH) has a coefficient of -0.06 and a p-value of 0.62 which is statisticallyinsignificant. This signifies that FGRWTH has negative but insignificant influence on share prices of listed manufacturing firms in Nigeria. The implication of this result is that any rise or fall in FGRWTH may or may not have any effect on the share prices of manufacturing firms in Nigeria. This finding contradicts the a priori expectations that firm growth should have positive impact on share price. This may be as a result of the fact that investors in the Nigerian manufacturing firms do not necessarily consider firm growth in their investment decisions. This finding is in line with the findings of Chowdhury and Chowdhury (2010); Muhammad and Muhammad (2013); and Safdar, Hozoor, Toheed, and Ammara (2013), but contradicts those of Mondal and Imran (2010); and Mohammad and Usman (2016)

Also, the result of tangibility (TANG) shows a coefficient of 0.11 and a p-value of 0.69 which is insignificant. This signifies that TANG has a positive but insignificant influence on the share prices of listed manufacturing firms in Nigeria. It also implies that the change in TANGhas no noticeable effect on the share prices of listed manufacturing firms in Nigeria. This result may not be unconnected with the fact that Nigerian manufacturing firms employ more current assets than fixed assets, as shown in the descriptive statistics which reveal that manufacturing companiesin Nigeria havean average of43% of their total assets as fixed assets (PPE), while some of the firms have as low as only 3% of their total assets value as PPE. Another reason may be that tangibility may not matter much to investors in the manufacturing firms for their investment decisions as it is found not to be a good predictor of share price. Considering the fact that tangibility could not be found to be examined in relation to share price by previous studies, the finding in this study on tangibility could not be compared with that of any prior study.

Internal governance (INT_GOV) has a coefficient of -6.17 and a p-value of 0.075 which is significant at 10% level. This signifies that INT_GOV has a significant negative influence on the share prices of listed manufacturing companies in Nigeria. Also, it implies that an increase in the number of board of directors by one-point will lead to a fall in the share prices of listed manufacturing companies in Nigeria by 6.17 points. This means that increasing the number of a firm's directors in the board results in the fall in share prices of the listed manufacturing firms in Nigeria. This finding is however not in line with the a priori expectation of the study. The reason for the unexpected finding may not far from the fact that larger boards are likely to cause delay sending information and decision making, and the effect of boardroom politics on firms' performance which may translate into having an adverse effect on share prices. This finding is consistent with the findings of Banderlipe (2013) and Mediha, Asma, and Adel (2017), but contrary to the finding of Hamidu and Aliyu (2015).

Lastly, Table 4.7 shows that market concentration (MKT_CONC) has a coefficient of 6.73 and a p-value of 0.04 which is significant at 5%. This indicates that MKT_CONC has a positive significant impact on the share prices of listed manufacturing firms in Nigeria. The implication of this result is that a one-point rise in MKT_CONC will result in the increase in the share prices of listed manufacturing firms in Nigeria by 6.73 points and vice versa. In view of the fact that MKT_CONC has not been examined in relation to share price by previous studies, the finding in this study on MKT_CONC could not be compared with that of any prior study. However, the finding is in agreement with the theory of Efficient Market Hypothesis.

Overall, Table 4.7 shows that the model of the study is fit.This is indicated by the model's wald chi^2, which is significant at 1% level of significance. At the individual level, the result indicates that FSIZE, FAGE, INT_GOV, and MKT_CONC have significant positive effect

on SP while LEV, FGRWTH, and TANG have no significant influence on SP of listed manufacturing companies in Nigeria.

4.7 Test of Hypotheses

The table 4.7 shows the result of the random-effects GLS regression which reveals that some of the variables have significant effect on share price while the rest do not. Based on the results in the table, the hypotheses of this study which were stated in null form are tested below.

$H0_1$ Leverage has no significant impact on the share prices of listed manufacturing firms in Nigeria.

From the table, the results show that leverage has a coefficient of 0.0088 with a p-value of 0.96 which is insignificant. This resultprovides the statistical evidence for not rejecting the hypothesis 1 which states that leverage has no significant impact on the share prices of listed manufacturing firms in Nigeria. The result of this study therefore supports that leverage has no significant impact on share prices of listed manufacturing firms in Nigeria.

$H0_2$ Firm size has no significant influence on the share prices of listed manufacturing firms in Nigeria.

Also, the results show that firm size has a coefficient of 195.24 and a p-value of 0.02 which is significant at 5%. This provides evidence for rejecting the hypothesis 2 which states that firm size has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_3$ Firm age has no significant impact on the share prices of listed manufacturing firms in Nigeria.

The results show that firm age has a coefficient of 2.055 and a p-value of 0.099 which is significant at 10%. This result provides the basis for rejecting the hypothesis 3 which states

that firm age has no significant impact on the share prices of listed manufacturing firms in Nigeria. This study therefore affirms that firm age has a significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_4$ Firm growth has no significant impact on the share prices of listed manufacturing firms in Nigeria.

The results inTable 4.7show that firm growth (FGRWTH) has a coefficient of -0.06 and a p-value of 0.62 which is insignificant. This provides evidence for not rejecting the hypothesis 4 which state that firm growth has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_5$ Tangibility has no significant impact on the share prices of listed manufacturing firms in Nigeria.

Tangibility shows a coefficient of 0.11 and a p-value of 0.69 which is insignificant. This result provides the statistical evidence for not rejecting the hypothesis 5 which states that tangibility has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_6$ Internal governance has no significant impact on the share prices of listed manufacturing firms in Nigeria.

The result of internal governance is shown to have a coefficient of -6.17 and a p-value of 0.075 which is significant at 10% level. This result provides the statistical evidence for rejecting the hypothesis 6 which states that internal governance has no significant impact on the share prices of listed manufacturing firms in Nigeria.

$H0_7$ Market concentration has no significant impact on the share prices of listed manufacturing firms in Nigeria.

The table shows that market concentration has a coefficient of 6.73 and a p-value of 0.04 which is significant at 10%. The result also provides evidence for rejecting the hypothesis 7 which states that market concentration has no significant impact on the share prices of listed manufacturing firms in Nigeria.

4.8 Policy Implication of Findings

There are certain possible policy implications which can be established from the findings of this study. Firstly, the result from this study is relevant and signifies a wakeup call on the management of Nigerian manufacturing firms to devise more strategies of maintaining and improving their asset base with the view of gaining more patronage by investors in the capital market.

In addition, the findings of this study provide relevant result which serves as a clarion call on the investors in the manufacturing firms to advocate for a reduced number of the board membership with a view to having more efficient boards which would facilitate speedy decision-making processes and reduce the boardroom politics.

Furthermore, the findings of this study provide relevant implications especially with regards to the competitive strength of the Nigerian manufacturing firms. The findings therefore serve as an indication for the managements of the firms to devise better strategies towards gaining more opportunities in the market and increase annual turnover with a view to strengthening the competitive abilities.

Finally, the findings signifies the need for the Nigerian Stock Exchange to gather more empirical evidence and consider setting certain standards relating to some attributes of the firms to be incorporated in the listing rules so as to improve the quality of these attributes towards maintaining the confidence of the existing investors and attracting prospective investors to invest their resources in the shares of the Nigerian manufacturing firms.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study is premised on the fact that changes in firm's share prices are influenced by numerous factors which emanate from both within the firm (internal factors) and outside the firm (external factors). Thus, the study specifically investigates the impact of some internal factors (firm attributes) on the level of share price of listed manufacturing companies in Nigeria.

Relevant theoretical and empirical literatures were reviewed. The review shows that studies on firms attributes are motivated by the fact that listed firms use financial statements as one of the major medium of communication with their equity shareholders and the public at large. It also reveals that previous studies in this area were criticised by this study based on either methodological approach regarding measurement of the dependent or independent variables, disparity in research domains and differences in economic systems where these studies were conducted and periods covered by the studies.

The literature reviewed also reveals dearth of studies on the subject in the Nigerian context. In line with the efficient market hypothesis which underpins this study, a multiple regression model was used with the aim of explaining and predicting empirically the changes in share price as a result of changes in firm attributes. The model used for the study examined the association between seven independent variables: leverage, firm size, firm age, firm growth, tangibility, internal governance, and market concentration; and one dependent variable: share price. Panel data were extracted from the financial statements of 32 listed manufacturing firms in Nigeria for the period 2008-2016. The random effects GLS regression result revealed that firm size, firm age, internal governance, and market concentration have significant impact on share prices, while leverage, firm growth and tangibility have insignificant impact on the share prices of listed manufacturing companies in Nigeria.

5.2 Conclusion

Based on the findings, this study concludes that the combined influence of the selected firm attributes on share price of listed manufacturing firms in Nigeria is significant. The effect however gets diluted as the variables are considered on individual basis. Firstly, the study concludes that leverage has positive but insignificant impact on the share prices, hence leverage may not be a good predictor of share prices of listed manufacturing companies in Nigeria. It is further concluded that firm size has significant positive impact on the share prices of listed manufacturing companies in Nigeria. Therefore, firm size is a very important firm attribute which should be considered in the investment decision process by investors in the manufacturing companies in Nigeria. Also, the study concludes that firm age has significant positive impact on the share prices of listed manufacturing firms in Nigeria and so, the age of a firm is also a good predictor of share prices. Furthermore, it is concluded that firm growth has negative but insignificant influence on the share prices of listed manufacturing campanies in Nigeria. In addition, the study concludes that tangibility may not be a good predictor of share prices of listed manufacturing companies in Nigeria. The study concludes further that internal governance has significant negative impact on the share prices of listed manufacturing firms in Nigeria, hence fewer number of directors in the board will be healthier to the firms. Finally, the study concludes that market concentration is also a strong predictor of share prices of listed manufacturing companies in Nigeria.

5.3 Limitations of the Study

This study has somelimitations, about which the reader should be mindful when interpreting the findings. Firstly, the study ignored several other firms' attributes such as earning per share, book value per share, cash flow, and investment policies which were identified by previous studies as variables that might influence share prices. Secondly, the methods used to

analyse relationships between variables capture associations only in a statistical sense. Further studies may therefore use other methods to determine causation. Lastly, the study is limited to listed manufacturing firms in Nigeria. The findings and recommendations therefore are only applicable to manufacturing firms as the behaviour of firm attributes may vary across different sectors.

Notwithstanding the above, the validity and reliability of the results obtained are not affected by the limitations. This is because, the appropriateness of the research design and methodology as well as the procedure followed in carefully selecting the variables and the robustness tests conducted have made the study dependable and amenable for replication. In addition, the findings of the study have support in the literature.

5.4 Recommendations

Based on the findings and conclusion of this study, the following recommendations are offered:

i. Management of manufacturing firms in Nigeria should devise more strategies of maintaining and improving their asset base by ensuring that the firms' asset values do not fall below the average of ₦45.33billion. This should be done with the aim of gaining more investors' confidence and increased prices of the firms' shares in the capital market.

ii. The management of Nigerian manufacturing firms should put in place more efforts to maintain the going concern status of their firms. This could facilitate their smooth operation and continuous survival which in turn will translate into increased prices in their shares by gaining more investors' patronage.

iii. Investors in the Nigerian manufacturing firms should advocate for the regulatory authorities to reduce the range of board membership to a minimum of five (5)

members and a maximum of say ten (10) members. This will help in reducing the delays in decision making and minimising the effect of boardroom politics (by having smaller and more efficient boards in the firms).

iv. The management of Nigerian manufacturing firms should devise more strategies towards gaining more grounds in the market for their products so as to achieve higher annual turnover. This can be achieved by improving the quality of their products, increasing their advertisement rates, and their sales promotion activities.

v. Investors in the listed manufacturing firms in Nigeria should be guided by those firm attributes especially the firm size, firm age, internal governance (board size), and market concentration as they are very important factors which influence share prices. This can be achieved by analysing the annual reports and accounts of the firms either by oneself or through the services of professionals in that field so as to enable them to make informed investment decisions.

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APPENDIX I(a)

LIST OF POPULATION OF LISTED MANUFACTURING FIRMS AS AT 31ST DECEMBER, 2016

S/NO	COMPANY NAME	SUB-SECTOR	LISTING DATE	
1	ELLAH LAKES PLC.	AGRICULTURE	1980	
2	FTN COCOA PROCESSORS PLC	AGRICULTURE	2008	
3	LIVESTOCK FEEDS PLC.	AGRICULTURE	1978	
4	OKOMU OIL PALM PLC.	AGRICULTURE	1991	
5	PRESCO PLC	AGRICULTURE	2002	
6	A.G. LEVENTIS NIGERIA PLC.	CONGLOMERATES	1978	
7	CHELLARAMS PLC.	CONGLOMERATES	1977	
8	JOHN HOLT PLC.	CONGLOMERATES	1974	
9	S C O A NIG. PLC.	CONGLOMERATES	1977	
10	TRANSNATIONAL CORPORATION OF NIGERIA PLC	CONGLOMERATES	2010	
11	U A C N PLC.	CONGLOMERATES	1974	
12	7-UP BOTTLING COMPANY PLC	CONSUMER GOODS	1986	
13	CADBURY NIGERIA PLC	CONSUMER GOODS	1976	
14	CHAMPION BREW PLC	CONSUMER GOODS	1983	
15	DANGOTE SUGAR	CONSUMER GOODS	2007	
16	DUNLOP PLC	CONSUMER GOODS	1961	
17	FLOUR MILLS PLC	CONSUMER GOODS	1979	
18	GOLD BREW PLC	CONSUMER GOODS	1979	
19	GUINNESS	CONSUMER GOODS	1979	
20	HONEY WELL	CONSUMER GOODS	2009	
21	INTERNATIONAL BREW	CONSUMER GOODS	1995	
22	JOS BREW	CONSUMER GOODS	1992	
23	MCNICHOLS	CONSUMER GOODS	2009	
24	MULTITREX	CONSUMER GOODS	2010	
25	NNFM	CONSUMER GOODS	1978	
26	NASCON	CONSUMER GOODS	1992	
27	NESTLE	CONSUMER GOODS	1973	

28	NB	CONSUMER GOODS	1973	
29	ENAMELWA	CONSUMER GOODS	1978	
30	MANDRID	CONSUMER GOODS	1979	
31	PZ	CONSUMER GOODS	1974	
32	PREM BREW	CONSUMER GOODS	1988	
33	UTC	CONSUMER GOODS	1972	
34	UNILEVER	CONSUMER GOODS	1973	
35	UNION DICON	CONSUMER GOODS	1993	
36	VITA FOAM	CONSUMER GOODS	1978	
37	VONO PRODUCT	CONSUMER GOODS	1974	
38	DANGOTE FLOUR MILLS	CONSUMER GOODS	2006	
39	AFRIK PHARMACEUTICALS PLC.	HEALTHCARE	1992	
40	EKOCORP PLC.	HEALTHCARE	2010	
41	EVANS MEDICAL PLC.	HEALTHCARE	1979	
42	FIDSON HEALTHCARE PLC	HEALTHCARE	2008	
43	GLAXO SMITHKLINE CONSUMER NIG. PLC.	HEALTHCARE	1977	
44	MAY & BAKER NIGERIA PLC.	HEALTHCARE	1994	
45	MORISON INDUSTRIES PLC.	HEALTHCARE	1978	
46	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC	HEALTHCARE	1979	
47	NIGERIA-GERMAN CHEMICALS PLC.	HEALTHCARE	2007	
48	PHARMA-DEKO PLC.	HEALTHCARE	1979	
49	UNION DIAGNOSTIC & CLINICAL SERVICES PLC	HEALTHCARE	2006	
50	ADSWITCH PLC	INDUSTRIAL GOODS	1991	
51	AFRICAN PAINTS (NIGERIA) PLC.	INDUSTRIAL GOODS	1996	
52	ASHAKA CEM PLC	INDUSTRIAL GOODS	1990	
53	AUSTIN LAZ & COMPANY PLC	INDUSTRIAL GOODS	2007	
54	AVON CROWNCAPS & CONTAINERS	INDUSTRIAL GOODS	1994	
55	BERGER PAINTS PLC	INDUSTRIAL GOODS	1974	
56	BETA GLASS CO PLC.	INDUSTRIAL GOODS	1986	
57	CAP PLC	INDUSTRIAL GOODS	1978	

58	CEMENT CO. OF NORTH.NIG. PLC	INDUSTRIAL GOODS	1993	
59	CUTIX PLC.	INDUSTRIAL GOODS	1987	
60	DANGOTE CEMENT PLC	INDUSTRIAL GOODS	2008	
61	DN MEYER PLC.	INDUSTRIAL GOODS	1979	
62	FIRST ALUMINIUM NIGERIA PLC	INDUSTRIAL GOODS	1992	
63	IPWA PLC	INDUSTRIAL GOODS	1978	
64	LAFARGE AFRICA PLC.	INDUSTRIAL GOODS	1979	
65	NIGERIAN ROPES PLC	INDUSTRIAL GOODS	1978	
66	PAINTS AND COATINGS MANUFACTURES PLC	INDUSTRIAL GOODS	2008	
67	PORTLAND PAINTS & PRODUCTS NIGERIA PLC	INDUSTRIAL GOODS	2009	
68	PREMIER PAINTS PLC.	INDUSTRIAL GOODS	1995	
69	W A GLASS IND. PLC.	INDUSTRIAL GOODS	1985	

APPENDIX I(b)

LIST OF ADJUSTED POPULATION OF MANUFACTURING FIRMS

S/NO	COMPANY NAME	SUB-SECTOR	LISTING DATE	
1	LIVESTOCK FEEDS PLC.	AGRICULTURE	1978	
2	OKOMU OIL PALM PLC.	AGRICULTURE	1991	
3	PRESCO PLC	AGRICULTURE	2002	
4	A.G. LEVENTIS NIGERIA PLC.	CONGLOMERATES	1978	
5	U A C N PLC.	CONGLOMERATES	1974	
6	7-UP BOTTLING COMPANY PLC	CONSUMER GOODS	1986	
7	CADBURY NIGERIA PLC	CONSUMER GOODS	1976	
8	CHAMPION BREW PLC	CONSUMER GOODS	1983	
9	DANGOTE FLOUR MILLS NIG PLC	CONSUMER GOODS	2006	
10	DANGOTE SUGAR PLC	CONSUMER GOODS	2007	
11	DUNLOP PLC	CONSUMER GOODS	1961	
12	FLOUR MILLS OF NIG. PLC	CONSUMER GOODS	1979	
13	GUINNESS NIG PLC	CONSUMER GOODS	1979	
14	INTERNATIONAL BREW PLC	CONSUMER GOODS	1995	
15	NASCON NIG. PLC	CONSUMER GOODS	1992	
16	NESTLE NIG. PLC	CONSUMER GOODS	1973	
17	NIGERIAN BREWERIES PLC	CONSUMER GOODS	1973	
18	NNFM NIG. PLC	CONSUMER GOODS	1978	
19	PZ CUSSONS NIG PLC	CONSUMER GOODS	1974	
20	UNILEVER NIG. PLC	CONSUMER GOODS	1973	
21	VITA FOAM NIG. PLC	CONSUMER GOODS	1978	
22	EVANS MEDICAL PLC.	HEALTHCARE	1979	
23	FIDSON HEALTHCARE PLC	HEALTHCARE	2008	
24	GLAXO SMITHKLINE CONSUMER NIG. PLC.	HEALTHCARE	1977	
25	MAY & BAKER NIGERIA PLC.	HEALTHCARE	1994	
26	NEIMETH INTERNATIONAL	HEALTHCARE	1979	

	PHARMACEUTICALS PLC			
27	ASHAKA CEMENT NIG. PLC	INDUSTRIAL GOODS	1990	
28	BERGER PAINTS PLC	INDUSTRIAL GOODS	1974	
29	CEMENT CO. OF NORTH.NIG. PLC	INDUSTRIAL GOODS	1993	
30	CAP PLC	INDUSTRIAL GOODS	1978	
31	CUTIX PLC.	INDUSTRIAL GOODS	1987	
32	LAFARGE AFRICA PLC.	INDUSTRIAL GOODS	1979	

APPENDIX II(a)

DESCRIPTIVE STATISTICS

```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   13.0   Copyright 1985-2013 StataCorp LP
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Notes:
      1.  (/v# option or -set maxvar-) 5000 maximum variables

. edit

. *(12 variables, 277 observations pasted into data editor)

. summarize sp lev fsize fage fgrwth tang int_gov mkt_conc, detail
```

sp

Percentiles		Smallest		
1%	.5	.5		
5%	.7333	.5		
10%	1.1333	.5	Obs	277
25%	3.1933	.5	Sum of Wgt.	277
50%	10.32		Mean	47.22805
		Largest	Std. Dev.	134.3288
75%	33.6333	857.33		
90%	81.76	957.037	Variance	18044.23
95%	175.033	966.677	Skewness	5.705919
99%	957.037	1096.67	Kurtosis	38.15886

lev

	Percentiles	Smallest		
1%	17.7877	3.9885		
5%	24.7365	5.6323		
10%	32.0045	17.7877	Obs	277
25%	42.6203	18.3038	Sum of Wgt.	277
50%	55.1696		Mean	57.99432
		Largest	Std. Dev.	33.87424
75%	65.0214	150.946		
90%	78.3564	162.702	Variance	1147.464
95%	100.85	326.95	Skewness	5.493297
99%	162.702	386.83	Kurtosis	48.15501

fsize

	Percentiles	Smallest		
1%	827.374	759.108		
5%	1891.72	783.613		
10%	2600.6	827.374	Obs	277
25%	6154.83	935.437	Sum of Wgt.	277
50%	20555.5		Mean	45339.3
		Largest	Std. Dev.	71058.23
75%	55478	356707		
90%	108207	367640	Variance	5.05e+09
95%	175936	381273	Skewness	3.333556
99%	367640	537598	Kurtosis	16.94525

fage

	Percentiles	Smallest		
1%	3	2		
5%	6	2		
10%	10	3	Obs	277
25%	22	3	Sum of Wgt.	277
50%	33		Mean	29.35379
		Largest	Std. Dev.	11.28089
75%	37	52		
90%	41	53	Variance	127.2584
95%	43	54	Skewness	-.6838805
99%	53	55	Kurtosis	2.824945

fgrwth

	Percentiles	Smallest		
1%	-40.8255	-61.0885		
5%	-16.1157	-57.2992		
10%	-6.9896	-40.8255	Obs	277
25%	1.6862	-33.2445	Sum of Wgt.	277
50%	9.7844		Mean	16.65059
		Largest	Std. Dev.	33.758
75%	22.0814	160.389		
90%	44.1938	207.601	Variance	1139.603
95%	62.4664	221.172	Skewness	3.370967
99%	207.601	238.453	Kurtosis	19.6324

tang

	Percentiles	Smallest		
1%	3.7913	3.1127		
5%	11.028	3.217		
10%	16.8196	3.7913	Obs	277
25%	26.5847	4.6612	Sum of Wgt.	277
50%	42.7952		Mean	43.14663
		Largest	Std. Dev.	20.41769
75%	57.6463	85.0363		
90%	71.6992	85.9947	Variance	416.882
95%	77.7057	86.4145	Skewness	.1165772
99%	85.9947	87.1863	Kurtosis	2.19719

int_gov

	Percentiles	Smallest		
1%	6	5		
5%	6	5		
10%	7	6	Obs	277
25%	8	6	Sum of Wgt.	277
50%	9		Mean	9.819495
		Largest	Std. Dev.	2.325796
75%	11	15		
90%	13	15	Variance	5.409329
95%	15	17	Skewness	.4806866
99%	15	17	Kurtosis	3.027376

mkt_conc

	Percentiles	Smallest		
1%	.0073	.0037		
5%	.1155	.0055		
10%	.1623	.0073	Obs	277
25%	.4102	.01	Sum of Wgt.	277
50%	.9976		Mean	3.231665
		Largest	Std. Dev.	4.754436
75%	4.3274	19.7648		
90%	8.5706	20.3878	Variance	22.60466
95%	17.1691	21.6743	Skewness	2.197476
99%	20.3878	21.7314	Kurtosis	7.403533

APPENDIX II(b)

SKEWNESS/KURTOSIS TEST FOR NORMALITY

```
. sktest sp lev fsize fage fgrwth tang int_gov mkt_conc
```

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
sp	277	0.0000	0.0000	.	0.0000
lev	277	0.0000	0.0000	.	0.0000
fsize	277	0.0000	0.0000	.	0.0000
fage	277	0.0000	0.6444	16.18	0.0003
fgrwth	277	0.0000	0.0000	.	0.0000
tang	277	0.4181	0.0000	17.55	0.0002
int_gov	277	0.0014	0.7619	9.34	0.0094
mkt_conc	277	0.0000	0.0000	.	0.0000

.

APPENDIX II(c)

CORRELATION MATRIX

```
. correlate sp lev fsiz fage fgrwth tang int_gov mkt_conc
(obs=277)
```

	sp	lev	fsiz	fage	fgrwth	tang	int_gov
sp	1.0000						
lev	0.0411	1.0000					
fsiz	0.3193	-0.1509	1.0000				
fage	0.2236	0.2211	-0.0405	1.0000			
fgrwth	0.0238	-0.0306	0.0638	-0.1753	1.0000		
tang	0.1878	0.0571	0.2897	-0.0812	0.0179	1.0000	
int_gov	-0.0372	-0.1581	0.4339	-0.0076	0.0343	0.1720	1.0000
mkt_conc	0.3116	-0.0205	0.6818	0.1465	0.0044	0.0815	0.5523

	mkt_conc
mkt_conc	1.0000

APPENDIX II(d)

OLS REGRESSION RESULTS

```
. regress sp lev fsize fage fgrwth tang int_gov mkt_conc
```

Source	SS	df	MS		
Model	471.134325	7	67.3049036	Number of obs	= 277
Residual	251.111183	269	.933498823	F(7, 269)	= 72.10
				Prob > F	= 0.0000
				R-squared	= 0.6523
				Adj R-squared	= 0.6433
Total	722.245509	276	2.61683155	Root MSE	= .96618

sp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lev	-.4389356	.1873669	-2.34	0.020	-.8078278	-.0700435
fsize	.4112079	.1099749	3.74	0.000	.1946868	.627729
fage	.0445662	.0913341	0.49	0.626	-.1352545	.2243869
fgrwth	.1673587	.0833539	2.01	0.046	.0032496	.3314677
tang	-.1150691	.0962499	-1.20	0.233	-.3045681	.0744298
int_gov	.5884147	.1141237	5.16	0.000	.3637255	.8131039
mkt_conc	.0496836	.0130393	3.81	0.000	.0240114	.0753557
_cons	-1.745176	.2507962	-6.96	0.000	-2.238949	-1.251404

APPENDIX II(e)

ROBUSTNESS TESTS

```
. vif
```

Variable	VIF	1/VIF
mkt_conc	2.50	0.400055
fsiz	2.23	0.448112
int_gov	1.53	0.652726
tang	1.17	0.852768
fage	1.14	0.874548
lev	1.13	0.883184
fgrwth	1.04	0.964803
Mean VIF	1.54	

```
.


. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of sp

         chi2(1)      =   480.43
         Prob > chi2  =   0.0000

.
```

APPENDIX II(f)

FIXED AND RANDOM EFFECTS REGRESSIONS RESULTS

```
. xtreg sp lev fsiz fage fgrwth tang int_gov mkt_conc, fe

Fixed-effects (within) regression               Number of obs      =       277
Group variable: id                              Number of groups   =        32

R-sq:  within  = 0.0692                         Obs per group: min =         6
       between = 0.2095                                        avg =       8.7
       overall = 0.1811                                        max =         9

                                                F(7,238)           =      2.53
corr(u_i, Xb)  = -0.0414                        Prob > F           =    0.0159
```

sp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lev	.0168737	.1863024	0.09	0.928	-.3501386	.383886
fsiz	203.6651	120.2662	1.69	0.092	-33.25701	440.5872
fage	1.814258	2.078049	0.87	0.384	-2.27946	5.907976
fgrwth	-.0776471	.1311002	-0.59	0.554	-.335912	.1806179
tang	.0381569	.3010524	0.13	0.899	-.5549107	.6312246
int_gov	-4.700244	3.666563	-1.28	0.201	-11.92331	2.522818
mkt_conc	7.626885	4.364485	1.75	0.082	-.9710693	16.22484
_cons	-278.3627	144.7177	-1.92	0.056	-563.4538	6.728458
sigma_u	107.16112					
sigma_e	61.116987					
rho	.75456093	(fraction of variance due to u_i)				

```
F test that all u_i=0:     F(31, 238) =    24.37                 Prob > F = 0.0000

. est store fe
```

```
. xtreg sp lev fsiz fage fgrwth tang int_gov mkt_conc, re

Random-effects GLS regression                   Number of obs      =       277
Group variable: id                              Number of groups   =        32

R-sq:  within  = 0.0679                         Obs per group: min =         6
       between = 0.2301                                        avg =       8.7
       overall = 0.1988                                        max =         9

                                                Wald chi2(7)       =     26.17
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0005
```

sp	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
lev	.0088323	.1782816	0.05	0.960	-.3405933	.3582579
fsiz	195.2497	84.79545	2.30	0.021	29.05371	361.4458
fage	2.055388	1.247639	1.65	0.099	-.3899394	4.500715
fgrwth	-.0630178	.1278664	-0.49	0.622	-.3136312	.1875957
tang	.112241	.2890859	0.39	0.698	-.4543569	.6788389
int_gov	-6.172058	3.466624	-1.78	0.075	-12.96652	.6223996
mkt_conc	6.730167	3.271975	2.06	0.040	.3172135	13.14312
_cons	-259.5875	116.2891	-2.23	0.026	-487.5098	-31.66514
sigma_u	107.24716					
sigma_e	61.116987					
rho	.75485809	(fraction of variance due to u_i)				

```
. est store re

.
```

APPENDIX II(g)

HAUSMAN SPECIFICATION TEST AND LANGRANGIAN MULTIPLIER TEST FOR RANDOM EFFECTS

```
. hausman fe re
```

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
lev	.0168737	.0088323	.0080414	.0540762
fsiz	203.6651	195.2497	8.415356	85.28587
fage	1.814258	2.055388	-.2411296	1.661832
fgrwth	-.0776471	-.0630178	-.0146293	.0289388
tang	.0381569	.112241	-.074084	.0840351
int_gov	-4.700244	-6.172058	1.471814	1.194238
mkt_conc	7.626885	6.730167	.8967181	2.888409

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 4.60
Prob>chi2 = 0.7081

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        sp[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                     |       Var     sd = sqrt(Var)
             ---------+------------------------------
                  sp |   18044.86       134.3311
                   e |   3735.286       61.11699
                   u |   11501.95       107.2472

        Test:   Var(u) = 0
                            chibar2(01) =   534.76
                        Prob > chibar2 =   0.0000

.
```