DIVIDEND POLICY AND STOCK PRICE VOLATILITY

IN NIGERIA

BY

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MSC/ADMIN/4970/2009 – 2010

BEING A THESIS SUBMITTED TO THE SCHOOL OF POST GRADUATE STUDIES OF AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER'S OF SCIENCE (DEGREE) IN ACCOUNTING AND FINANCE

DEPARTMENT OF ACCOUNTING, FACULTY OF ADMINISTRATION

AHMADU BELLO UNIVERSITY, ZARIA.

JUNE, 2014

DECLARATION

I wish to state that this research is solely conducted by me under the guidance of my supervisors, Mr. Luka Mailafiya and Mr. Audi Abubakar; that all the sources of information used in this work have been acknowledged. However, any omission or commission is from me, not intentional and is regretted.

Wodung, Nimjal Maimako

CERTIFICATION

This thesis titled "Dividend policy and stock price volatility in Nigeria" by Wodung Nimjal Maimako meets the regulations governing the award of degree of Master of Science in Accounting and Finance of Ahmadu Bello University, Zaria. Hence, it is approved for its contribution to knowledge and literary presentations.

_____ _____

Chairman, Supervisory Committee Date

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Member, Supervisory Committee Date

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Head of Department Date

_____ _____

Dean, School of Post Graduate Studies Date

DEDICATION

To my son, Sheriff, and everlasting memory of my grandmother, Maye.

ACKNOWLEDGMENTS

Several persons are instrumental to the success of this research work. My gratitude goes to my Supervisors, Luka Mailafia and Audi Abubakar who never relented in reviewing and correcting the work. I thank I.L. Chechet, A. Umar and Shittu Isa, all of Accounting Department, Ahmadu Bello University, Zaria, for helpful comments I also thank Jibrin Yero of Accounting Department Ahamadu Bello University, Zaria for helping with running the regressions. I thank Rosemary Onimisi for typing and retyping the work. Are also thank Moses and Umar of the Nigerian Stock Exchange for helping with the data. My gratitude also goes to Nimnan of Plateau state Polytechnic and Datong Mathew for helping me with the computation of the variables.

ABSTRACT

Dividend policy remains a source of controversy despite years of theoretical and empirical research including the aspect on the linkage between dividend policy and stock price volatility. This study examines the impact of dividend policy on stock price volatility in Nigeria using panel data for 11 years period from 2002-2012. The use of panel data helps in eliciting the effects that purely time series or purely cross sectional data alone may not. The study uses a sample of 13 companies obtained from the list of companies quoted on the Nigerian Stock Exchange. In analyzing the data, Ordinary least square (OLS) regression was used. The findings of the study indicate that dividend policy measures, dividend yield and dividend payout ratio, have significant negative impact on stock price volatility, while two control variables, leverage and firm size, have significant positive and negative impacts respectively on stock price volatility. However, firm growth has insignificant impact on stock price volatility. This study recommends that policy makers such as managers of quoted companies should use dividend policy to reduce stock volatility for investors in their companies. Similarly, financial analysts, fund and portfolio managers should use dividend policy in managing and selecting low volatility stocks for the investors.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Dividend policy has been researched for several decades. Dividend policy is one of the most important variables that concern both managers of companies and shareholders.Dividend is important because it is one of the financial benefits of the investors.

But dividend policy problem, although well researched, has defied solution. Dividend policy remains a source of controversy despite years of theoretical and empirical research (Allen and Rachim, 1996; Asamoah, 2010; Nishat and Irfan, 2001). According to Black (1976), the more one looks at the dividend picture, the more it seems like a puzzle with pieces that do not just fit together. Akinsulire (2011) states that why dividend policy poses this kind of problems is that stockholders want both dividends and capital gains. Allen and Rachim (1996) point out that the puzzle of dividend policy includes the linkage between dividend policy and stock return volatility.

Dividend policy is one measure decision areas in corporate finance.Inmeasuring dividend policy, researchers usually consider it as a two dimensional variable, with dividend yield and dividend payout ratio as the two dimensions. Up till now research for the relationship between dividend policy and stock return volatility is ongoing.

A study on the linkage between dividend policy and stock return volatility may be a basis for helping managers of companies and capital market practitioners such as stockbrokers, fund and portfolio managers and other capital market

participants in their decision making and policy formulation. A favorable relationship would be beneficial to investors because the value of their investment will be enhanced. Such benefit would especially be good for an emerging capital market like Nigeria. A boosted capital market commands investors' confidence.

Similar to the observation made by Nishat and Irfan (2001) on the Pakistani capital market, the Nigerian market is a high risk, high return market. In a high risk, high return market, researches are expected to help reduce the mystery of dividend policy. This is definitely good for the development of the market.

Since Baskin (1989) developed the models that permit the test of the relationship between dividend policy and stock return volatility, interest has grown by both researchers and practitioners alike. This interest is reflected by works of several researchers on this linkage (see for example Hussainey, Mgbame & Chijoike-Mbame, 2010; Nishat & Irfon, 2000; Rasheed & Rahman, 2008).

Recently, there have been increasing studies on the linkage of dividend policy and stock volatility in many developing countries (see Asamoah, 2010; Hashemijoo, Ardekani & Younesi, 2010; Jecheche, 2012; Okafor, Mgbame & Chijioke-Mgbame, 2010). Since stock volatility is the systematic risk faced by investors in the capital market (Guo, 2000),efforts to rationalize it should not be surprising because investors will be interested in researches in this area. Stock volatility may affect price negatively and its persistence in a capital market can be detrimental.

The Nigerian capital market was one of the emerging markets that witnessed increase on stock return just before the beginning of the present financial and economic crises. The report given by the Securities and Exchange Commission was a

booster for investors in the Nigerian capital market. The increase in entry into the Nigerian capital market might have been connected with reduced volatility and increased dividends. The efforts by the Nigerian security and exchange commission to create awareness and strongly regulate the market are objectives to minimize stock market volatility in order to increase investors' confidence. This efforts to some extends appears a success.

Recently some prominent Nigerian companies have withdrawn from the stock market. With all the advantages of listing the securities of a company on the Stock Exchange, these companies still go on to delist. If the advantages of delisting cannot match the volatility of the market, the companies will have no option than to withdraw from the market. This will at least save the image of the company because the company will no longer be affected by the fads of the market.

Stock price volatility and dividend are global phenomena. Because of this, exploring the relationship between the two variables will be of paramount use to stock market participants. Roll (1983) and Schwert (1989) argue that stock volatility is a lingering phenomenon.

1.2 Statement of Research Problem

Many studies have been conducted on the relationship between dividend policy and stock price volatility, with those in developed capital markets relatively earlier. Recently, studies on the relationship between dividend policy and price volatility have been growing in volume in emerging markets, but with such studies rarely found in Nigeria.

Most studies in Nigeria concentrate on the determinants of dividend policy and the role of dividend policy in value creation. Concentrating on these two aspects of dividend policy ignores an important aspect, the linkage between dividend policy and stock market risk.

Indeed, the only known study on the linkage between dividend policy and stock price volatility in Nigeria is the one conducted by Okafor, Mgbame and Chijioke -Mgbame (2011). Their study examines the cross sectional variation between dividend policy and price volatility for a sample period from 1995to 2005. Since Okafor, Mgbame and Chijioke -Mgbame's (2010) study stops at 2005, it fails to capture the period of financial and economic crises that started in 2007. Changes in the faces of financial and economic cycles may be characterized by changes in the structural parameters of determinants and hence the need for studies that would cover the period of the present financial and economic crises that started in 2007. Okafor, Mgbame and Chijioke – Mgbame's (2010) study therefore leaves a gap that needs to be filled.

Results of studies on the relationship between dividend policy and price volatility have been mixed. This also is a ground to carry out more studies on this linkage.

1.3 Research Questions

I. To what extent does dividend yield affect stock price volatility?

II How does dividend payout ratio influence stock price volatility?

1.4 Objectives of the Study

The objectives of this study are stated as follows:

I. Toexamine the impact of dividend yield on stock price volatility;

II. To determine the impact of dividend payout ratio on stock price volatility

1.5 Statement of Hypotheses

The hypotheses of this study are stated in the null form as follows:

H_{01} Dividend yield does not have any significant impact on stock price volatility.

H_{02}Dividend payout ratio does not have any significant impact on stock price volatility

1.6 Scope of the Study

This study restricts itself to the impact of dividend policy on stock price volatility. The choice of this topic is predicated on the fact that there are rarely studies on this topic in Nigeria. In addition, market risk is a very important variable to the investors

The study covers quoted companies in Nigeria. This is because information on quoted companies is available. Information on quoted companies are obtainable both on the website of the exchange and in its offices. Data collection on quoted companies is further eased by the fact that the exchange has branches all over the country making it easy to access the offices.

The study uses data for 11 year period of 2002-2012. 11 years is long enough to dictate a structural change in the economy. This period was specifically chosen to

find out how the Nigerian capital market behaves for periods before and during the financial crises.

1.7 Significance of the Study

This study is meant to benefit various groups that are directly or indirectly linked to the capital market. These groups are mainly policy makers, financial analysts, investors and researchers.

For the: Policy Makers such as managers of companies would find the work useful. Managers of companies, they would use the results of this research to influence share price through stock price volatility. Since as theorized, if dividend is reduced, share price can be boosted up. Managers would use dividend policy by reducing it to create wealth for the shareholders. This would in turn attract would be investors to the market. If the wealth of the company is boosted up, the company can raise additional funds to cater for its developmental projects.

Financial analysts such as stockbrokers, portfolio and fund managers, and jobbers would use dividend policy for their respective professional functions. Stockbrokers who represent both buyers and sellers of quoted securities would use the findings of this study in helping their clients, especially if the findings of the study are in line with expected results. Stockbrokers usually perform the function of pricing quoted securities. This they do by analyzing the securities. Stockbrokers would thus assist their clients in pricing the buying and selling of the securities through considering the influence of dividend policy on stock price volatility. This is because low volatility stocks are expected to command high prices and vice versa.

Portfolio and fund managers constitute another group of participants in the capital market. Portfolio managers usually assist investors in diversifying their investments to build portfolios. This is away of creating safety for the investors. Portfolio managers usually search for low risk securities but of high returns for their clients. They may thus find the results of this study useful especially if they conform to expectations. Looking for high dividend stocks with low risk would be their paramount search so as to build very safe portfolios for their clients. Fund managers manage the funds of mutual funds after these funds have been pooled together from the unit-holders. Just as portfolio managers, fund managers search to invest in low risk securities so as to guarantee safety for the unit-holders. If the relationship that dividend policy is inversely linked to price volatility holds, then in their analysis, fund managers can use this relationship to provide safe investments for owners.

Jobbers who do business in their own names would also use the linkage given by the theories of dividend policy to better off their welfare. In parting with their funds for profit, they normally search for low risk securities. They would thus apply the findings of the study in selecting their investments. For example, if high dividends provide low price volatility, dividend policy would guide the jobber in investing his financial resources.

Investors constitute another clientele in the capital market. Here, by investors, are meant those individuals that select their investments on the basis of long term holdings rather than short term trading, like jobbers. These are individual investors that are knowledgeable on the capital market. These individual investors can use capital market research while giving orders to their brokers. Just as the others in the

preceding discussion, they would use the linkage of dividend policy and stock price volatility in giving orders to their agents.

Researchers would use the study in developing the discipline of the capital market. Researchers would use the work because it will add to literature in the area of capital market. These researchers include academics, researchers in research institutes and professional members who want to help in developing the discipline through their continuing education. Academics such as University Lecturers, whose one major function is research, would use the work since it will add to literature. Workers of research institutes also undertake research as their major function. The work will alsohelp as literature. Research students can also use the work as reference materials in course of their studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews related literature. The concept of dividend policy and stock price volatility are discussed. Specifically, the measures of dividend policy and stock price volatility are highlighted. The control variables used in this study are discussed. Theories of dividend policy, including the framework for this study are also discussed. Finally, a review of empirical studies is taken in depth.

2.2 The Concept of Dividend Policy

Dividend policy is a well discussed and researched aspect of corporate finance. But dividend policy remains a source of controversy despite years of theoretical and empirical research (Allen and Rachim, 1996; Asamoah (2010); Nishat & Irfan 2001). Dividend policy is one of the most important policies not only to the firm, but also to the shareholders, customers, regulatory bodies and the government (Uwuigbe, Jafaru & Ajayi, 2012). Dividend policy, therefore, concerns a wide clientele that are related to the firm. From 1938 to Lintnar (1959), to Gordon (1956) to Miller and Modigliani (MM) (1961) to Black (1976) to De Angelo, De Angelo and Skinner (1996) to De Angelo and De Angelo (2004) and to date, researchers have not been able to solve the dividend question. According to Black (1976), the more one looks at the dividend picture, the more it seems like a puzzle, with pieces that do not just fit together. Dividend policy can be described as a mirror in which the image of the dividend object does not resemble the object. What makes dividend policy difficult to settle in theory and in practice is that the demands of the investors operate in opposing directions. Coming up with a dividend policy is challenging because

investors prefer both dividends and capital gains (Akinsulire, 2011; Wikipedia, n.d.), and firms generally adopt dividend policy that suites their life cycle (Waithara, Ngugi, Aiyabei, Itunga & Kirago, 2012). Also firms adopt dividend policies that maximize their values (Waithara et al., 2012). But this statement is better stated that firms adopt dividend policies that meetinvestors' needs and necessary conditions. Several attempts have been made to define dividend policy. Dividend policy is the policy of the firm on how much of the profit made is distributed as dividend and how much is retained in the business (Accountlearningblogspot.com, n.d.; investopedia, n.d.; investowords.com, n.d.; Zee, 2009; Oxford Dictionary of Accounting, 2005; Smith n.d.; study- finance.com, n.d.). Investopedia (n.d.) states that dividends are usually decided by the board of directors and paid to the shareholders who are registered on the record date. Dividend payment is justified on the ground that dividends are cash in hand whereas capital gains are cash in the bush (Investopedia, n.d.; Al-malkawi, 2007; Al-malkawi, 2008). But dividends may be in form of property or stock which may be difficult to realize. According to Lee (2009), dividend policy is meant to answer several questions such as: how much dividend should a company pay to shareholders? What will be the impact of dividend policy on the company's share price? What happens if the amount of dividend changes from year to year? Dividend policy centers on decisions that are positive to the firm. Indeed, it would be unthinkable to see managers taking decisions that have negative consequences because the managers' job would be at stake. One view (See Van Horne & Wachowicz, 2009) is that dividend policy is an integral partof a firm financing. Van Horne and Wachowicz, (2010) see it that a major aspect of the firms dividend policy is determining the appropriation of profit between dividend payment, while considering legal, liquidity and control issues. Dividend policy is sometimes

constraint by certain circumstances such as debt obligation extinguishment. Firms seem to increase dividends with a lag which is an unspecified decision process (Lintner, 1956). Dividend policy is counter balanced by retention policy, investment policy, financingpolicy and growth policy. Dividend policy is also said to be a set of guidelines a company uses to decide distributable part of profit and retention (investopedia, n.d.). Companies pay more attention to two types of dividend policies, residual and stability policies.

Several theoretical models have attempted to help ease the complexity of dividend policy. One approach (see Gordon, 1963) is that paying large dividends reduces risk which in turn reduces the cost of capital leading to increased firm value. As Baskin (1989) notes, establishing regularity between dividend policy and stock price volatility would help investors predict risk. But establishing regularity between dividend policy and price volatility would not only help investors predict risk, but also helps managers manage risk. This is because dividend policy can be used to reduce risk in order to increase shareholders wealth. Easterbrook (1984) and Rozeff (1982) concord that dividend policy can be used as an agency cost in monitoring managers. This is done by the company resorting to the capital market,where members of the market scrutinize for their investments. The signaling model posits that dividend carries information and as such, can be used to boost the company's value (see Asguith& Mullins, 1983; Battacharya,1979; Miller & Rock, 1985). The capital structure substitution theory (CSST), suggests the use of leverage, stock return and profit to predict the size of dividend, while the dividend discount model (DDM) (seeGordon, 1959) uses dividends to assess firms value. In practice, however, investors seem to prefer a steady dividend growth (Lintner, 1959). The dividend discount model is considered by many authors to enjoy support of practitioners.

Dividend policy is measured by using Dividend Yield (DY), Dividend Payout Ratio (POR) and Dividend per Share (DPS) as proxies. POR seems to be the most commonly used measure of dividend policy used by researchers, especially in establishing the determinants of dividend policy. In establishing the linkage between dividend policy and stock price volatility, however, DY and POR are mostly used. This may be that investors' dividend decisions are based on considerations from the angle of earnings or capital invested.

2.3 The Concept of Stock Price Volatility.

Stock price volatility has been a capital market issue. Investors are never comfortable when stock returns are, especially very volatile. Many researchers and writers such as Schwert (1989), Roll (1988), Baskin (1989), Pindyck (1984), Porterba and summers (1984) and Kinder (2002) look at price volatility as the standard deviation of stock price. The issue of stock volatility is not that volatility exists, but that the volatility varies, hence the question as to why there is volatility of volatility. Wikipedia (n.d.), Amadeo (2012) and Commonwealth Financial Network (2009), See stock volatility as the pace stock prices move overtime. Bail (n.d.) states that in practice,price volatility is measured on minute by minute baseover 30 days. Volatility is always observed to occur over time. Gujarati and Porter (2009) report that financial time series experience periods of relative calm and wide swings, but Sharpe (1964), Pandian (2001) and Guo (2002) posit that volatility is the systematic risk faced by investors in the market place and for only which they should be rewarded since they can diversify away unsystematic risk. There exist historic and implied volatility (see candlestick Trading Forum, n.d.; Wikipedia (n.d.). implied volatility is more relevant to practitioners because it is forward looking. The directional consideration for

volatility is immaterial since the proxy, which is the variance, is implied by squaring the return figures, and the Black-Scholes model loses significance in a changing volatility.

Stock price volatility moves in the same direction with market risk (Cuthbertson & Nitzsche, 2005). Stock market volatility can therefore be used as a proxy for stock market risk. Some researchers have directly defined stock price volatility as stock price risk (see, for example, Beaver, Kettler & Scholes, 1970; Fischer & Jordan, 1995; Pandian, 2001).

Studies on the influence of stock volatility have been inductive, but the knowledge of price volatility can be enhanced by modeling. Several studies exist attempting to find evidence for factors that impact on stock volatility with few theories to explain the phenomena, as Roll (1983, 1988) and Schwert (1989) notice. The few thoughts and intuitions that attempt to solve this problem are mostly informal. Roll (1983) and Glosten and Milgrom (1985) suggest microstructure and liquidity respectively as factors that impound in stock price risk, while Vaknin (n.d.) believes that short selling on the stock exchange is responsible for price volatility. Other views are Schwert (1989) for trade cycle and macroeconomic variables. But the open views are for computerized trading; limit trading, off trading, auction trading and margin requirements and the presence and absence of floor brokers (Roll, 1988). Volatility creates market inefficiency where stock price is mispriced because it is believed to be caused by mass fear, mass disagreement and mass greed. Black and Scholes (1973), try to solve the problem of volatility measurement by developing the Back-Scholes (B –S) model pricing option, while Oseni and Nwosa (2011) believe that price volatility is affected by future cash flow.

Several proxies are used to represent price volatility. Schwert (1989) suggests a realistic proxy for stock volatility using a percentage of change in stock price. Leon (2007) uses the stock return (R) and the square of the stock return (R^2) as proxies for price volatility. Some researchers use the standardized covariance of the stock return and the market portfolio such as S&P 500, known as Beta (B)(Beaver, Kettler & Scholes, 1970; lee, 2009),while Parkinson (1980) comes up with a calculation which uses the difference between the highest and lowest prices a year divided by the average of the same highest and lowest prices. The proxy according to Parkinson (1980) issuperior to just the difference between the highest and the lowest prices. Most recent researchers consider the Parkinson (1980) model as quite appealing (see, for example, Asghar, Shah, Hamid & Suleiman, 2011; Habib, Kiani & Khan, 2012; Hashemijoo, Ardekani & Younesi, 2012; Hussainey, Mgbame, & Chijioke -Mgbame, 2010; Jecheche 2012, Nazir, Abdullahi, & Nawaz, 2012; Nazir, Nawaz, Anwar, & Ahmad 2010; Rasheed & Rahman, 2008; Zakaria, Muhammad & Zulkifli, 2012). This study uses this method of measuring price volatility.

2.4 Control Variables

Control variables are always assimilated into empirical tests. The presence of control variables may deceive researchers of their results if not checked. Baskin (1989) proposes and discusses, leverage, firms' size and firm growth as the control variables in testing for the impact of dividend policy on stock price volatility.

Leverage may induce action on price volatility. Firms with high financial leverage will create informational gap on investors' returns. These willevoke irrational behavior on the investors. Thus, financial leverage needs to be controlled in

order to be sure that the relationship between dividend policy and price volatility is not spurious.

Size is also a potential factor of stock price volatility. Larger firms are mostly diversified, which may be across both geographical boundaries as well as industry wise and thus insulated from the vicissitudes of individual markets. Furthermore, it is sometimes noted that institutional investors find it expensive to research companies that provide a limited outlet for investment funds. Less research means less public information which could cause investors to react irrationally to new events. Moreover, there may be fewer market participants with the necessary knowledge for arbitraging price fluctuations. Markets in small stocks therefore may be subject to illiquidity and high volatility.Size is a consequential control because it may influence the choice of dividend policy. Firms with more dispersed public shareholding, that is may be more sensitive to the need for market signaling. Without controlling for size, a spurious relationship may be recorded as larger less risky firms just happen to pay more dividends.

Dividend policy may serve as a proxy for growth and investment opportunities. If the relationship between risk and dividend policy remains after controlling for growth, this would suggest evidence of either arbitrage or the information effect. A dummy variable, GFC, is also included in the second regression model to control for both financial and economic cycles.

2.5 Theories of Dividend Policy

The controversial nature of dividend policy has given rise to a number of theories with the attempts to explain it. Some of these theories are even contradictory to one another.

2.5.1 Dividend Irrelevance Theory

Since Miller and Modigliani (1961) developed the irrelevance theory, the controversy of dividend policy has lingered till date. Miller and Modigliani argue that in a world of perfect capital market, absence of personal and corporate taxes, fixed investment policy, absence of transaction costs, rationality of investors, there is no relationship between dividend policy and share price. Miller and Modigliani theory has played key role in corporate finance. MM theory is discussed in almost every work in the literature of corporate finance (see for example, Al-Malkawi, 2007; Al-Malkawi, 2008; Al-Shubiri, 2011; Chigozie, 2010; De Angelo & De Angelo, 2004; De Angelo, De Angelo & Skinner 1996; Grullon, Michaely & Swaminathan, 2002; Jafri, 2008; Miller & Rock, 1985; Nnadi & Akpomi, 2008; Nazir, Nawaz, Anwar & Ahmed, 2010)

Since this theory is about dividend policy, the link between it and this study is that they both concern dividend. This study examines the impact of dividend policy on stock price volatility. Although the theory does not explain stock volatility, the clear link is that they concern dividend policy.

2.5.2 Agency Theory and Free Cash Flow Hypothesis

Agency cost is the cost of conflict of interest between managers and shareholders. It is also the cost of conflict of interest between creditors and shareholders. Jensen and Meckling (1976) state that, agency cost arises when owner-managers divest part of their holdings to outsiders. Miller and Modigliani posit that managers are perfect agents of the shareholders and no agency costs can arise between them. Al-Malkawi (2007) argues that managers may conduct some activities

that may incur costs to shareholders such as undertaking investments that yield negative net present value and unnecessarily paying high compensations to themselves.

Agency cost as regards dividend policy was developed by Easterbrook (1984) and Zoreff (1982). They argue that dividend policy can be used to reduce agency cost. Shareholders, they argue, require the funds that can be used for firms' growth. The dividend paid to shareholders reduces the cash flow of the firm, forcing managers to raise funds from the capital market. Capital market funds are strictly scrutinized. This replaces the monitoring of managers by shareholders, hence reducing monitoring

Jensen (1986) developed the free cash flow hypothesis. According to Jensen, free cash flow is the cash flow of the company in excess of that required to invest in all positive net present value projects. Jensen argues that the agency problem can be worse in the presence of free cash flow. He argues further that managers invest the company's free cash flow in negative net present value projects for their utility maximization. The agency cost that results reduces the value of the firm. The free cash flow hypothesis excludes the growth opportunities of the firm. Thus the free cash flow hypothesis cannot hold when there are investments opportunities available to the firm.

Just as the dividend irrelevance theory, this theory and this study are related by way of the fact they concern dividend. The prediction of this theory,however, differs from that of this study. There is no prediction in this theory that links any independent variable to stock price volatility. The prediction of this theory, however, proposes a relationship between policy and stock price volatility.

2.5.3 The Bird in Hand Theory

Al-Malkawi (2007) posits that the bird-in hand theory predates Miller and Modigliani (1961). The bird-in-hand theory proposes that in a world of uncertainty, and information asymmetry, investors prefer dividends because a bird at hand is worth more than two in the bush. The consequence of high dividend will reduce the cost of capital and hence increasing the stock price. According to Al-Malkawi, this theory has not received much support. The advocates of this theory include Gordon (1959). The indeterminate nature of the irrelevance theory gives impetus to the bird in hand theory (Al-Malkawi, 2007).

This theory and this study, apart from being linkeddirectly by way of dividend, are also linked by way of stock price. Increase in volatility implies that stock price will be low. And decrease in volatility implies that stock price is high. So, if low dividends increase stock price, it suggests that the prediction of this theory and that of the model for this study oppose each other.

This theory proposes ultimate increase in risk leading to reduced price. Nishat and Irfan (2001) posit that Gordon (1963) developed the rate of return effect. The theory proposes that in a low dividend paying company, shareholders have high expectation of a company's growth. The expectation of growth will swing to uncertainty in the distant future. The theory suggests a negative relationship between dividend policy and stock price volatility. Uncertainty is associated with distant future. This may be the premise upon which this theory is built. The theory proposes low level of uncertainty in the short term and high level of uncertainty in the long term.

2.5.4 The Signaling Hypothesis

The signaling hypothesis is also referred to as the information content hypothesis. The hypothesis proposes that dividend payment indicates current and future profitability performance of the company. According to the theory, a company that pays dividends passes information that the current and future profitability performance of the firm is and will be good. Nishat and Irfan (2001) state that, if investors are certain about their opinion, they will react less irrationally to questionable information. Researchers are consensus that dividend conveys information but there is no agreement as to the nature of the information conveyed. This has led to formulation of subsidiary theories. For example, Bhattacharya (1979) developed the cash flow signaling hypothesis. The cash flow signaling hypothesis posits that the current cash flow of a firm serves as signal for the future cash flow. It suggests that the future cash flow will be good. The proponents of signaling hypothesis include Bhattacharya (1979), Miller and Rock (1985), Asquith and Mullins (1983) and Zoreff (1982)

This theory shows one of the mechanisms that link dividend policy and stock price volatility. The model here explains and predicts stock price volatility. The prediction in the model is that dividend policy influences stock price volatility. This theory is part of the theoretical framework for this study.

2.5.5 Arbitrage Realization Effect

The arbitrage realization effect is built on the assumption of inefficient market, portrayed by Baskin (1989). Allen and Rachim (1996) stated that a number of authors have argued to that. The arbitrage realization effect posits that the realization of profit

from mispricing of stock might be possible even though it could be very difficult, particularly where the forces of equilibrium take effect slowly.

A fully informed investor who knows the extent of the underpricing and the value of the expected dividend in each period is assumed to be concerned with the return over the next investment period. Allen and Rachim (1996) state that this investor considers that others will not be aware of the underpricing and the stock will continue to sell at a discount at the end of the period. Thus, a mispriced common stock which pays no dividend and which shows no tendency to return to its intrinsic value cannot provide an arbitrage profit. The higher the dividend yield, the greater the scope for realizing the arbitrage profit.

This theory is also a part of the theoretical framework for this study. In developing this theory, Baskin (1989) predicts that dividend policy is negatively related to stock price volatility study. Nishat and Irfan (2001) state that this theory is one of the mechanisms that predict aninverse relationship between dividend policy and price volatility.

2.5.6 The Duration Effect

The duration effect proposes that a high dividend paying company has near term cash flow. Baskin (1989) states that, like short term debt, where the price remains at par, the price of high dividend paying company will remain at par, even when there is fluctuating rate of return. Short term debts are low risk securities, just as a company with high dividend payment is. The prediction of this model is that increasing the dividend of a company reduces it stock volatility. This prediction is an inverse relationship between dividend and stock volatility. This theory, just as the

signaling hypothesis and the arbitrage realization effect is an underpricing for this study.

2.5.7 Tax Preference Theory

Litzenberger and Ramaswamy (1982) posit that Brennan (1970) was the first to include tax effect in the capital assets pricing model. The tax preference theory proposes that investors would require high dividends in a differential tax system between dividend and capital gain. The theory may be based on the fact that investors

Need to maintain their purchasing power and the way to do that is to demand high dividend. The relationship between this theory and this study is that both are concern with dividend policy.

2.5.8 The Clientele Effect

Closely related to the tax preference theory is the clientele effect. The clientele effect proposes that investors form clienteles based on the stocks that meet their preferences. Thus, in a differential tax system between dividend and capital gain, investors in high tax brackets will choose stocks of companies that pay low dividends

2.6 Review of Empirical Studies

2.6.1 Dividend policy and stock price volatility

The study of dividend policy includes the linkage between dividend policy and stock price risk. Gordon (1963) postulates that increasing dividend by firms will reduce risk which in turns will reduce the cost of capital and finally increasing the price of the stock of the firm. Using a number of accounting variables, Bearer,

Ketteler and Scholes (1970) use these variables as proxies for accounting measure of risk. Where proxies are used as measures of a variable, the results may differ because some proxies may be far substitutes. In the case of Bearer, Kettler and Scholes' (1970) study, on average, the measures approximate well for accounting measure of risk. The results recorded by Bearer, Kettler and Scholes (1970) show that accounting risk is impounded in market risk.

Ben- Zion and Shalit (1975) investigated a composite determinant of equity risk. Using firm size, leverage and dividend records as determinants of equity risk, the findings suggest that leverage is positively related to firm risk, but dividends and size are negatively related to firm risk. These findings are consistent with the theory of firm size, leverage and dividends in relation to firm risk. In an Australian context, Ball, Brown, Finn and Officer (1979) confirm the risk and dividend relation theory.

Also working on determinants of risk, Grullon, Michaely and Swaminathan (2002) establish that dividend does not increase for only profit increasing firms but also for profit decreasing firms. They therefore hypothesize that managers are over optimistic about future profits. Gullon, Michaely and Smaminathan (2002) also provide a new explanation because the results do not fit Lintner (1956) theory which does not involve explanation for risk. Similarly Gullon, Michaely and Swaminathan's (2002) results do not fit Jensen's (1968) free cash flow hypothesis for its failure to explain risk. Grullon, Michaely and Swaminathan (2002) therefore postulate the "maturity Hypothesis" which states that dividend increases and other cash payments is integral feature of the process of a firm as it moves from a growth phase to mature phase.

Baskin's (1989) approach differs from the others (Allen and Rachim, 1996). Using Parkinson (1980) measures of stock volatility and controlling for the problem of extreme value, Baskin (1989) postulates four basic models which he wentahead and tested. A clear distinction between Baskin's (1989) study and others is thatquantitativecontrolvariables are included in the regression model. The use of` stock price volatility to proxy for systematic risk in this method makes the testing of the models straight forward. It is important to note that the concern is the systematic risk as Pandian (2001) states.

A number of studies have followed Baskin (1889). Allen and Rachim (1996) are the first to test the models after Baskin (1989). However, contrary to Baskin (1981) study, Allen and Rachim (1996) find that dividend yield does not explain stock return volatility. Symmetrical with Baskin's (1989) study, however, they report that dividend payout explains stock return volatility negatively. This result is consistent with the models which together predict that dividend policy explains stock price volatility negatively. Allen and Rachim (1996), however, conclude that it is not clear where the causality recites. Nishat and Irfan's (2001) results agree with Baskin's (1989) using Pakistan as case. Nishat and Irafan (2001) report that their findings reflect the results of developed capital markets.Nishat and Irfan (2001) find that dividend yield and dividend payoutratio,the two common proxies for dividend policy, have negative impact on stock price volatility even after controlling for other variables.

The tests of the Baskin's (1989) models have received considerable support till date. Most of the tests, however, appear to be on developing economies. This may

not be unconnected with the fact that stocks of emerging capital markets are more volatile than their developed counterparts.

Following Baskin's (1989) Allen and Rachim's (1996) and Nishat and Irfan's (2001) studies, several studies have been conducted on the linkage of dividend policy and stock volatility. Using a sample of firms listed in the Dakar stock exchange, Rasheed and Rahman (2008) find evidence of positive but insignificant relationship between dividend yield and stock return volatility in Bangladesh. They however find a significant negative relationship between dividend payout ratio and stock return volatility. Following Nishat and Irfan (2001), Jafri (2008), confirms their findings that both the dividend policy measures are negatively related to stock price volatility in Pakistan. Carper and Yang (2008) investigated whether the relationship between dividend policy and stock return volatility may have changed over time because of the US capital gains tax relief. Using data on common stocks from 1967 through 1986, and using the model symmetric with Baskin's (1989), their estimation result provide insights into different trading strategies and investment method.

It is actually difficult to say whether an independent variable is related to a dependent variable if one or some of thedimensions of the independent variable is or are significant and one or some are not. Allen and Rachim (1996) finding themselves in this situation report that it is difficult to say where the causality resides. Rasheed and Rahman (2008), finding no relationship between dividend yield and stock return volatility and a negative relationship between dividend payout ratio and stock return volatility, report that institutional shareholding and insider activities were responsible for their results.

Hussainey et al. (2010) establish a positive relationship between dividend yield and stock return volatility and a negative relationship between dividend payout ratio and market risk. Several studies were conducted in 2010 on the linkage of dividend policy and stock return volatility. Using a sample of 10 firms, Asamoah (2010) finds significant negative relationship between the two measures of dividend policy and stock price volatility in Ghana. Nazir, Nawaz, Anwar and Ahmed (2010) establish positive relationship between dividend yield and stock return volatility and a negative relationship between dividend payout ratio and stock return volatility. In Nigeria, Okafor et al. (2010) establish that dividend yield is negatively related to stock return volatility, while payout ratio is positively related to stock return volatility. Nazir, Abdullahi and Nawaz (2011), using fixed effect regression, find significant impact of dividend yield on stock return volatility and no relationship between dividend payout ratio and stock price volatility. Asgar, Shah, Hamid and Suleiman (2011) find a negative relationship between dividend policy and stock return volatility.

Jecheche (2012) finds that the Zimbabwe stock market agrees with the dividend policy models as regards stock return volatility. Habib, Kiani and Khan (2012) find that dividend and payout ratios show no sign of impact on stock return volatility. Hashemijoo, Ardekani and Younesi (2012) have mixed results on the measures of the relationship between dividend policy and stock return volatility. Zakaria, Muhammad and Zulkifli (2012) find mixed results. Okafor et al.'s (2010) study is the only one on the linkage of dividend policy and stock return volatility in Nigeria. They find a significant negative impact of dividend yield and positive impact of payout ratio on stock return volatility respectively.

The study of Okafor et al. (2010) deserves some critique Okafor et al.'s (2010) study examined the impact of dividend policy on stock return volatility by using yearly regressions and finding which result appear more than the other. This approach is definitely subjective. Taking policy decisions based on those results can be very misleading.

2.6.2 Other Determinants of Stock Price Volatility

Baskin's (1989) approach concentrates on dividend policy as determinant of stock market volatility. Other researchers, however, have tied their studies to the relationship between other variables and stock return volatility. Officer (1973) and Schwert (1989) find that the stock return during the 1929-1939 great depression was unusually high. The great depression posed not only a threat to the American economy, but also severe psychological trauma. Because of the devastating consequences of the great depression, the aftermath was competing studies to help unveil the factors that influence stock volatility, although these causes remain a mirage in the eyes of theorists and empiricists. Indeed, the surprising thing is that the models of researchers fail to explain changes in stock return volatility over time.

Black (1976) and Christie (1982) find that financial leverage explains only a very small portion of stock return volatility and Merton (1980), Pindyck (1984), Porterba and Summers (1986), French, Schwert and Stambaugh (1987), Bollerslev, Engle and Woolridge (1989) and Abel (1988) relate changes in stock market volatility to changes in expected returns to stocks. Shiller (1981 a, b) argues that the level of stock market volatility is too high relative to ex post variability of dividends. Using differential analysis, Raju and Ghosh (2004) establish that the Indian and Chinese

markets are more volatile than any stock markets elsewhere. This finding is not surprising because emerging markets usually exhibit higher risk. In their own finding Dopke, Hartmann and Pierdzioch (2005) find evidence that monthly stock return volatility on the German capital market can be explained by the performance of major macroeconomic indicators which have influence on the business cycles, while Verma and Verma (2007) find that investors' irrational sentiments contribute more to increase in stock volatility than reduce it. Chinzara and Aziakpono (2011) find evidence that both stock return and volatility in South Africa are linked to the Australian, Chinese and the US stock markets. It is important to note that all the variables explain in aggregate, just a small amount of stock return volatility. Without almost no exception, however, stock market volatility is persistent and continuous over time.

Another well-known market crash is that of 1987. Roll (1988) concentrated on this crash. According to Roll (1988), the features that figured prominently at the post 1987 crash discussions are the extent of computerized trading, the auction system itself, the presence or absence of limit or price movements, regulated margin requirements and off-markets or off-hours trading. Additional features, which can be significant, Roll (1988) states, include the presence or absence of floor brokers which conducted trades but are not permitted to invest on cash market versus the forward market. As usual, during and after an economic event, discussions eminently ensue. In the present financial crises that reared its ugly head .since August 207, over deregulation, bubble phenomena, greed, fads among others have been attributed to it. The economic activities and practices of the time usually dictate the basis for such discussions and speculations.

Using time-series, before the October 1987 crash, Roll (1988) find evidence that certain variables, the presence of an official monopolistic specialist and computer directed trading were associate with less market decline in that October. Continuous auctions were marginally significant. Roll (1988) reports that the coefficients of these variables were roughly the same. In addition, Roll finds that the magnitude of each market's decline was explained by its ordinary relation with world markets events. According to him, nothing was left to be explained by the particular institutional arrangements. Roll's (1988) study is inductive in nature and that is why several variables were tested. He finds also that continuous auction trading shows some evidence of effect on stock return volatility, but that forward trading and liquidity do not show any evidence of effect on stock volatility.

According to Schwert (1989), many economic series were volatile during the 1929-1939 great depression. Schwert (1989) also establishes evidence that many aggregate economic series are more volatile during recession. Further, Schwert (1989) reports that (i) there is a weak evidence that macroeconomic volatility can help to predict stock and bond return volatility (ii)financial leverage affects stock volatility (iii) there seems to be a relation between trading activities and stock volatility (iv) events of economic history such as civil war, world war I, great depression, world war II, the Organization of Petroleum Exporting Countries (OPEC) oil shock and the post 1979 period are associated with larger stock volatility. Using a sample period of 2002 to 2005, and using the Granger causality test, Leon (2002) finds that trading volume has predictive power for stock return volatility. Leon (2007) argues that his finding supports Copeland (1967) sequential information arrival hypotheses as he further argues that his findings also supports the inefficiency of the capital market on the

Bourse Regionele des Valeurs Mobilieres (BRVM). Oseni and Nwosa (2011), however, find evidence that a bi-causal relationship exists between stock market volatility and real Gross Domestic Product (GDP) and that no causal relationship is inferred between stock return volatility and interest rate volatility in Nigeria.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology for this study. The study design is discussed.The population, the sample size and the sampling technique for the study are discussed, with justifications. Method of data collection and variable measurement are discussed. Finally, model specification and the method of data analysis are discussed.

3.2 Research Design

The design for the study is causal design. The justification for this is that the causal relationship between dividend policy and stock price volatility is examined. Similarly, the causal relationship between dividend payout ratio and stock price volatility is examined. Further justification is that statistical control is used to control for the effect of the control variables. In controlling for the effects of these variables, the causal relationship between price volatility and the control variable is reflected, since regression control also allows for the effects of the independent variables.

3.3 Population of the Study

The population of this study is made of all the quoted companies in the Nigerian stock exchange. The choice of the population is due to the fact that information on quoted companies is always readily available. The Nigerian stock exchange has branches across the country, making it easy to obtain data on the quoted

companies. From the Fact Books up to 2013, there were 193 companies in the Nigerian stock exchange.

3.4 Sample and Sampling Technique

The filter method was used to arrive at the sample used in this study. The Fact Books of the Nigerian stock exchange for 2007, 2010/2011 and 2012/2013 were used. The use of such Fact Books is to enable coverage of the period of the study-2002-2012. These fact Books were used to calculate the values of both the main variables and the control variables of the study. The website of the Nigerian stock exchange was used to obtain the data for calculating stock price volatility and dividend yield.

The 13 companies are arrived at as follows: The number of companies listed on the stock Exchange is 193. Of this number, those that do not have regular price and dividend data are 180.Those 180companies overlap in their irregular dividend and price data. The balance of the companies which make up the sample is therefore 13.

Table 3.1: List of Sample Firms

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
UAC property Plc	A	A	A	A	A	A	A	A	A	A	A
PZ Cursors Nig. Ltd	A	A	A	A	A	A	A	A	A	A	A
Nestle (Nig) Plc	A	A	A	A	A	A	A	A	A	A	A
Glaxosmithkein PLc	A	A	A	A	A	A	A	A	A	A	A
Guniess (Nig) Plc	A	A	A	A	A	A	A	A	A	A	A
7-Up Bottling Co. Plc	A	A	A	A	A	A	A	A	A	A	A
Mobile Oil (Nig) Plc	A	A	A	A	A	A	A	A	A	A	A
Con Oil Plc	A	A	A	A	A	A	A	A	A	A	A
Nigeria Breweries Plc	A	A	A	A	A	A	A	A	A	A	A
Total Nigeria Plc	A	A	A	A	A	A	A	A	A	A	A
R.T Briscoe (Nig) Plc	A	A	A	A	A	A	A	A	A	A	A
B.O.C Gases Nigeria Plc	A	A	A	A	A	A	A	A	A	A	A
Chemical & Allied Prod. Plc	A	A	A	A	A	A	A	A	A	A	A

3.5 Method of Data Collection

Data for the measurement of the variables were obtained from the library and website of the Nigerian stock exchange. Data for calculating the dividend yield and the dividend Payout ratio were obtained from the Fact Books of the exchange for 2007 and 2010/2011. Data on the companies from 2010 through 2013 were obtained from the exchange's data disk. These Fact Books give data on annual dividends and earnings of the company quoted on the exchange. Data on prices of the companies' shares were obtained from the website of the exchange. Data on prices and dividends enable the researcher to calculate the dividend yield, while the annual reports of the companies were used to obtain the data used in developing dividend payout ratio and the control variables.

This research uses secondary panel data. The panel data are dividends, earnings, fixed assets, current assets and prices of the companies for a particular year and for each company over the years under study.

3.6 Variable Measurement

3.6.1 Stock Price Volatility

The dependent variable in this study is stock price volatility. This is the systematic risk faced by investors in the capital market. This variable is measured by using Parkinson's (1980) formula. The variable is measured by dividing the difference of the highest and lowest prices of the stock of a company in the year by the average of the sum of the highest and lowest prices of the stock of the same year. This method is superior to the method of using just the difference between the highest and lowest prices in the year (Parkinson, 1980; Baskin, 1989).

3.6.2 Dividend Yield

This variable is one of the dividend policy measures. The variable is one of the independent variables of the study.The value of this variable for each year is calculated by taking the ratio of the total cash dividend to the market capitalization for the year or the dividend per share divided by the average market value for the year.This study uses dividend per share divided by stock price.

3.6.3 Dividend Payout Ratio

This variable is another dividend policy measure. It is also an independent variable. The value of the variable for each year is calculated by dividing the total dividend of the year by total earnings or the dividend per share divided by earnings per share. To control for the problem of extreme values, where the dividend payout is more than one, it is set at 1 (Nishat and Irfan; 2001).

3.6.4 Leverage

This variable is a control variable. The variable is measured by dividing the total long term loan capital of the company in the year by total assets of the company in the same year.

3.6.5 Firm Size

Firm size is another control variable. The value for each year is calculated by taking the logarithm of total assets in the year. The logarithm can be natural logarithm or the logarithm to base 10.This study uses logarithm to base 10.

3.6.6 Firm Growth

Firm growth is also a control variable. The value for each year is calculated by taking the ratio of change in total assets to beginning total assets in the year.

3.7 Model Specification

The relationship between stock price volatility and dividend policy has been analyzed using Multivariate least square regressions. The model basically relates price volatility with the two main measures of dividend policy,dividend yield and dividend payout ratio. This provides a crude test of the relationship between price volatility and dividend policy. This first test model is given as:

$$PV_{it} = \beta_0 + \beta\, DY_{it} + \beta_2\, POR_{it} + e_{it}$$

Where, the dependent variable, PV, is regressed against the independent variables DY and POR. In line with Baskin (1989) recommendation, a number of control variables are included to account for certain factors that might affect both dividend policy and price volatility. These control variables are, leverage, firm size and firm growth. The close relationship between dividend policy and price volatility may pose some problem as there are a number of factors that influence both dividend policy and price volatility. To limit this problem, the control variables are included in the analysis. This modifies the model to take account of this control, giving the following regression equation:

$$PV_{it} = \beta_0 + \beta_1 DY_{it} + \beta_2\, POR_{it} + \beta_3 LEV_{it} + \beta_4 SZ_{it} + \beta_5 GR_{it} + \alpha GFR_{it} + e_{it}$$

Where,

PV_{it} = stock price volatility

DY_{it} = Dividend yield

POR_{it} = Dividend payout ratio

LEV_{it} = Leverage

SZ_{it} = Firm size

GR_{it} = Firm Growth

GFR_{it} = Dummy Variable

β_0= Intercept

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5,$ = coefficients and

α = Coefficient of the Dummy Variable, GFC.

e_{it} = error term

3.8 Method of Data Analysis

This study uses Ordinary Least Square (OLS) regression technique in analyzing the data. In doing this, computer package of STATA is used. The results of the analysis are extracted and presented in tabular form. The analysis discuses some diagnostic tests such as multicollearity and heteroscidasticity. Descriptive statistics is also use in analyzing the data. In doing this, the descriptive statistics of the variables are presented in tabular form followed by discussion of each statistic. Summary of regression results are presented and discussed. The use of extract is to present the required data in simple way to avoid overloading the tables so as interpretation will be easier. Hausman specification test is used to select between fixed and random effects models.

3.9 Summary

The design for this study is a causal design. The study covers companies listed in the Nigerian stock exchange, while the filter method was used to arrive at the sample for this study. This selection method was used to obtain companies with complete data. The data were collected from the office and the website of the Nigerian stock exchange. Stock price volatility is measured by using Parkinson's method, which uses the difference of the highest and lowest prices in the year divided by the average of the sum of these highest and lowest prices. Dividend yield is measured by takings the ratio of cash dividend in the year and the market capitalization, while dividend payout ratio is measured by taking the ratio of cash dividend in the year and total earnings of that year. The regression is done in step wise manner. First, PV is regressed on DY and POR and then, second, PV is regressed on DY, POR, LEV, SZ, GR and GFC. Ordinary List square is used using STATA where Hausman specification test is used to select between the fixed and random effects models

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction`

This chapter is concerned with data presentation and analysis. Descriptive statistics are analyzed. This section discusses the means and standard deviations of the variables. It also discusses their correlations. Regression results are analyzed including diagnostic tests and significance of the regression coefficients

4.2 Descriptive Statistics

Table 4.1: Descriptive Statistics of PV, DY, POR, LEV, SZ and GR

Variable	Mean	Standard Deviation	Minimum	Maximum
PV	0.6492912	0.340797	0.0168336	1.818427
DY	0.0689073	0.0895817	0.00006858	0.6057142
POR	0.596442	0.315972	0.0016248	1
LEV	0.2330137	0.2104195	0.0093075	0.9899163
SZ	11.85418	3.086418	8.787302	19.09753
GR	0.1962532	0.133975	0.00885335	0.7235817

Source: output generated using STATA

The means and standard deviations of the variables of this study are presented in table 4.1. The mean of the dependent variable, PV, is 0.649212. If it is assumed that stock price follows a normal distribution, the mean of the stock price volatility can be found. The mean price volatility of 0.6492912 is multiplied by the constant number, 0.6008, derived by Parkinson (1980). The result is 39%. This figure is close to Baskin's (1989) result which is 36% for the US market. For Australia, the mean price

volatility is 29.91% (Allen and Rachim, 1996), while Nishat and Irfan (2001) obtain 29.42% and 32.56% for the Pakistani pre and reform periods respectively. The result for the UK is obtained by Hussainey, Mgbame and Chijioke –Mgbame (2010) as 17.66%. The Nigerian result, 39%, suggests a within range figure, indicating that stock price in Nigeria approximately follows a normal distribution.

The standard deviation of price volatility is 0.340797. This is the extent to which stock price volatility varies across firms in Nigeria. On average, the volatility variance in Nigerian capital market is moderate. One would expect a high level of volatility variance in Nigeria, but it does not actually appear to be so.

The mean and standard deviation of dividend yield are 0.0689073 and 0.0895817 respectively. The mean dividend yield, being about 7% is not too low. This result indicates that in Nigeria, investors receive dividend of 7% on their investments. It may be that investors prefer dividends to capital gains in Nigeria, and hence are willing to take low dividend because it is sure bet.

The mean payout ratio of the sample companies is 0.596442. The ratio suggests that, on average, Nigerian companies payout more than 50% of the profits made. The payout appears to conform to the provision of the various dividend policy models. The standard deviation of 0.315972 for the dividend payout ratio of the samples firms shows that the fluctuation in the payout ratio is small compared to mean payout. This standard deviation reflects the persistent payout of the Nigerian companies.

The mean leverage of 0.2330137 and the standard deviation of 0.2104195 suggest that Nigerian companies on average utilize less than 50% of the capital used

by them as loan. This may not be unconnected with the fact that the Nigerian capital market is a thin market that cannot provide large sources of long term funds. Of course, being risky, providers of funds would prefer short term financing because it is less risky. The average size of 11.85418 and standard deviation of size of 3.086418 indicate that Nigerian companies are of average size and that they do not differ much in size. Finally, the average growth rate of 19.63% of the Nigerian companies indicates that there is reasonable growth rate of companies in Nigeria. Also the standard deviation of the growth rate of 0.13% indicates that Nigerian companies maintain steady growth.

Table 4.2: Correlation matrix Among PV, DY, POR, LEV, SZ, and GR

	PV	DY	POR	LEV	SZ	GR
PV	1.000					
DY	-0.2130	1.000				
POR	-0.2118	0.0407	1.000			
LEV	0.2540	0.0904	-0.0720	1.000		
SZ	-0.2932	0.4122	0.0933	0.3232	1.000	
GR	-0.0368	0.1662	-0.386	0.0814	0.0716	1.000

Source: Output generated by STATA

Table 4.2 reports the correlations among price volatility, dividend yield, dividend payout ratio, leverage, firm size and firm growth. The data in the table show that the pair wise correlation between price volatility and dividend yield is -0.2130 which confirms to the expectation that stock price volatility and dividend yield are negatively related. This correlation between price volatility is quite lower than that obtain for the US market by Baskin (1989), which is -0.643, but close to the figure for

the Pakistani market derived by Nishat and Irfan (2001), which is -0.218. This result suggests that emerging markets manifest similar characteristics. Although Allen and Rachim (1996) do not establish significant relationship between dividend yield and stock return volatility, they find evidence of positive correlation of 0.006 between dividend yield and price volatility. The correlation between price volatility and dividend payout ratio is -0.2118. Again this result differs from the value of 0.542 for Baskin's (1989) US result of -0.177. Allen and Rachim (1996) obtain -0.210 for the Australian market.

The correlation between price volatility and leverage is 0.2540. This result also agrees with expectation. Thus, the correlation coefficient seems to support the hypothesis that price volatility is positively related to leverage. Firms' size and volatility have a correlation co-efficient of -0.2932. This also supports the hypothesis that large firms are diversified across both industry and geographical wise. Hence such firms have lower risk. Firm growth is also positively correlated with price volatility with a co-efficient of 0.0368. This result is contrary to expectation. Firm growth is hypothesized to be negatively correlated with price volatility. This hypothesis is similar to that of size. Firms with growth opportunities are expected to have lower risk.

Generally, the pair wise correlations among the independent variables are low, suggesting that there is no multicollineary among the variables. To summaries these results, the correlation betweendividend yield and payout ratio is 0.0407. The correlation coefficient between dividend yield and leverage is 0.0904. Between dividend yield and firm size, the coefficient is 0.4122, and between dividend yield andgrowth the coefficient is 0.1662. Between payout ratio and leverage, the

correlationcoefficient is-0.0720 .Between POR and Size the correlation coefficient is 0.0933 and between POR and GR the coefficient is –0.386.The coefficient between leverageand size is0.323,while the coefficient between leverage and growth is0.0814.The coefficient between sizeandgrowth is0.0716.

The highest correlation among the independent variables is that between dividend yield and size, which is, 0.4122. This coefficient is not large enough to cause any multicollinearity problem. This may be a good reason to believe that the situation aids the results of the regression results being in agreements with most expectations. The low correlation of 0.0407 between dividend yield and payout ratio can be confirmed from the results of the variance inflation factor and tolerance level from statistical package for social science (SPSS) below, found in appendix A.Low correlation coefficient is only suggestive of the absence of multicolinearity.

4.3 Presentation and Analysis of Regression Results

Using Ordinary Least Square, the Regressions were run in step wise manner.

First, stock price volatility was regressed on dividend yield and dividend payout ratio using fixed and random effect regressions. The outputs are summarized and presented in table 4.3. The details are presented in appendix C. Then price volatility was regressed on dividend yield, dividend payout ratio, leverage, size and firm growth. These last three variables are the numerical control variables suggested by Baskin (1989). To control for the effect of financial and economic cycle, especially the financial crises of the time starting from 2007, a dummy control (OFC) was also included in the second model, where 1 represents period before the crises and 0 represents period of the crises. To select between the fixed and random effect model,

Hausman specification test was used. The result of the test is presented in appendix G.The null hypothesis in the Hausman test is that the error term does not correlate with the regressors. If the null hypothesis is not rejected, then the random effect regression is preferable, but otherwise, the fixed effect regression is preferred. The result of the Hausman test with a P-value of 0, clearly rejects the null hypothesis, thus, the fixed effect regression is adopted for this study.

The summaries of regression results are presented in table 4.3 and table 4.4

Table 4.3: Summary of Fixed Regression Results of Price Volatility on Dividend Yield and Payout Ratio.

PV	Coefficient	P>/t/
DY	-0.8000701	0.019 * *
POR	-0.2692164	0.016 * *
CONS	0.8649945	0.000 * * *

R^2 0.08

F(2,128) = 5.59

Prob.0.0047

Source: Output generated by Using STATA

* * *, * * and * represent probabilities at 1%, 5% and 10% respectively

Table 4.3 Presents the Fixed Effect Regression Summary of Regression Results, of Which Price volatility is regressed on Dividend Yield and Payout Ratio. The full results are found in AppendixC. The R^2 square value is 0.08.This may increase when the effects of the control variables are check. The F statistic is 5.59 with a probability value of 0.0047. The F statistic is significant at 1% level showing that the model is fit.

The coefficient of dividend yield is – 0.8000701 which supports the expectation of negative relationship between dividend yield and stock return volatility. This expectation is supported by the p-value of 0.019 for this coefficient, indicating that DY is significant at 5% level. The coefficient of POR is -0.2692164 with a probability value of 0.016,which is alsosignificant at 5% level.As theresults of the regression are for a first test, the finalresults will be considered after controlling for the effects of the control variables.

TABLE 4.4**: Summary of Fixed Effect Regression of PV on DY, POR, LEV, SZ, GR and GFC**

PV	Coefficient	P>/z/
DY	-0.3411333	0.038 * *
POR	-0.1909464	0.046 * *
LEV	0.7801703	0.000 * * *
SZ	-0.0449663	0.000 * * *
GR	-.0.0023478	0.990
GFC	0.0006095	0.992
CONS	1.145826	0.000 * * *
R^2	0.3718	
F(12,124)	3.46	
Prob. F	0.0002	

Source: Output generated using STATA

***, ** and* represent probabilities at 1%, 5% and10% respectively

Table 4.4 presents the summary of the fixed effect regression, including the control variables suggested by Baskin (1989). The full results are presented in Appendix E. These control variables are leverage, firm size and firm growth. A dummy control, GFC is also included to account for the economic and financial crises that started in 2007.

Diagnostic tests were also carried out to test for multicollinearity and Heteroscidasticity. The results of the multicollinearity tests are presented in appendix A. The variance inflation factor (VIF) and toleranceof dividend yield are 1.06 and 0.943587,which indicates that DY does nothave serious multicollinearity with the other regressors. The VIF and tolerance level of POR are 1.58 and 0.6329 respectively. The VIF and tolerance of leverage are 1.09 and 0.9174 respectively. For size, the VIF and tolerance level are 1.02 and 0.9803 respectively and for firm growth, the VIF and tolerance level are 2.03 and 0.4926 respectively. The average inflation factor is 1.456 which suggests that, overall, the variables did not pose multicolonierity problem with one another.

Using Breusch-Pagan/Cook-weisbergheteroscidasticity test, the result of wish is presented in appendix B, there seems to be no heteroscidasticity problem; the null hypothesis in the heroscidasticity test is that there is no heteroscidasticity of the error term. The results of the test reveal a p-value of 0.0779 which is not significant at 5% level. Clearly the null hypothesis is not rejected, indicating no possibility of heteroscidasticity.

The R^2 square value has increased from 0.08 to 0.3718.The increase in the R^2 square value suggests that the control of the control variables is in order. This is because the increase in the R^2 square is indicative that they also contribute in explaining stock return volatilityas Baskin (1989) suggested. However the R^2value indicates that the independent variables together explain 37% of return volatility, leaving 63% to be explained by other factors.

The F statistic of 3.46 with a probability of 0.002 which is significant at 1% indicates that the model is fit. This suggests that a good amount of explanation of

stock return volatility is done by the independent variables. This seems to support the theory.

Dividend yield and stock price volatility after controlling for leverage, firm size, firm growth and the dummy variable

The coefficient of dividend yield is now - 0.3411333 with a probability value of 0.038. This probability value is significant at 5% level. Compared to the coefficient of dividend yield on the regression of price volatility on dividend yield and payout ratio, the coefficient is not reduced much. Dividend yield, therefore, has a significant negative impact on stock price volatility. This result supports the findings of Baskin (1989), Nishat and Irfan (2001, Jafri (2008), Asamoah (2010), Okafor, Mgbame and Chijioke –Mgbame (2010, Jecheche (2012).The finding of this study as regards the relationship between dividend yield and stock return volatility does not support the findings of Hussainey, Mgbame and Chijioke – Mgbame (2010) who find that dividend yield has a significance positive impact on stock return volatility. Also contrarily, Rasheed and Rahman (2008), Allen and Rachim (1996) and Zakaria, Muhammed and Zudkefli (2010) find no impact of dividend yield on stock return volatility.

Dividend payout ratio and stock price volatility after controlling for leverage, firm size, firm growth and the dummy variable

The coefficient of dividend payout ratio is – 0.1909464 with a probability value of 0.046 which is significant at 5%. Again comparing this result with the regression of price volatility on dividend yield and payout ratio, the relationship is not reduced much. Payout ratio is still significant as before. This suggests that the

relationship between dividend payout ratio and stock price volatility is not spurious. Indeed, Baskin (1989) reports that dividend policy is not a mere proxy in determining stock return volatility. The findings of this study on payout ratio supports those of Baskin (1989), Nishat and Irfan (2001), Asamoah (2010 and Hashemijoo, Ardekani and Younesi (2010). However, this finding is contrary to those of Rasheed and Rahman (2008) and Zakaria, Muhammed and Zulkifli (2010) who find that dividend yield does not have any evidence of impact on stock return volatility.

Leverage and stock price volatility

On the control variables, this study finds that there is significant positive relationship between leverage and stock return volatility. The coefficient of leverage is 0.7801703 with a probability of 0.000. This coefficient is hence significant at 1%.This result is in line with expectation. Overloading firms with debt increases the uncertainty of the stock price. Hassainey Mgbame and Chijoike- Mgbame (2010), Baskin (1989) and Allen and Rachim (1996) find similar results.

FirmSize and stock price volatility

The coefficient of size is - 0.0449663 with a probability value of 0.000, which is significant at 1%. This is supported by the studies of Allen and Rachim (1996) and Hashemijoo, Ardekani and Younesi (2010). Asamosh (2010) however, finds a surprising result that size has positive impact on stock return volatility. Firm size reduces risk because firms have opportunity to diversity both across industry and geographically.

Firm Growth and Stock Price Volatility

This study finds that there is no relationship between firm growth and stock return volatility. This finding is supported by those of Allen and Rachim (1996) and Nishat and Irfan (2001). Baskin (1989 reports that the effect of adding growth to the model is negligible. Generally firm's growth seems to have no impact on stock return volatility. It can be explained that investors do not consider size of firms for investment but other qualities such as managerial performance and market share.

Dummy Control and Stock Price Volatility

The result of the dummy control variable, GFC, suggests that the behavior of investors is not changed at whether time of economic and financial crises or not. In other words, dividend yield and dividend payout ratio show significantimpact during pre-financial and economic crises and also during such period.

4.4 Policy Implications of the Findings

The findings of this study show that management of quoted companies and Government can make policies that enhance the development of the capital market. As agents of the shareholders, managers need to make policies that meet shareholders expectations and interests. Managers should formulate the policy of increasing stock price in order to meet investors' wealth expectation.

Government should use the findings of this study to make policies on dividends. If government makes policies in line with the findings of this study, the progress of the capital market would be enhanced. By making policies that promote the development of the capital market, confidence of the investors would be won.

4.5 Summary

The mean price volatility is compared with the results of Baskin (1989), Allen and Rachim (1996) and Nishat and Irfan (2001) after multiplying by Parkinson's constants number. The comparison suggests that stock price in Nigeria follows a normal distribution on average. Nigerian investors accept moderate dividend on their investments. This is reflected by the value of the dividend yield. Nigerian companies are found to payout a large portion of their earnings to stock holders. The correlation coefficients of the variable generally conform to an expectation with virtually no multicollearity. Also, the regression coefficients of the variables conform to expectations and are generally significant. The only variables that fail to meet expectations are firm growth and the dummy control, GFC. The findings of this study indicate that dividend policy has impact on stock return volatility, even after controlling for the effects of the control variables.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study highlights the controversy surrounding dividend policy and the need for more research to help unveil this controversy. There are several aspects of dividend policy including one aspect- the linkage between dividend policy and stock price volatility. Studies on this linkage are more recent. Although there are earlier studies between dividend policy and market risk, the approach taken by Baskin (1989) differs from the earlier ones. Baskin's approach uses controls.

The study examines the impact of dividend policy on stock return volatility, using Baskin's approach. The null hypotheses are that (i) Dividend yield does not have any significant impact on stock return volatility (ii)Dividend payout ratio does not have any significant impact on stock volatility. This control uses control variables- leverages firm size firm growth as numerical controls and a dummy control to account for the changes in economic and financial cycles.

The study uses a lot of literature materials. Some of these materials were distant materials of researches made several decades ago. The nature of social science research permits such. Many studies have been conducted on the linkage between dividend policy and stock return volatility; of which many of them have being in developed financial markets and other emerging markets. Review of literature reveal that most studies in Nigeria concentrate on the impact of dividend policy on stock price and determinants of dividend policy. The only first attempt on the linkage of dividend policy and stock return volatility in Nigeria is the study of Okafor et al. (2010).

The population of this study is the companies listed in the Nigerian stock exchange. Using a causal design the model specification was formulated. To test the models, sampling selection was based on the filter method to arrive at companies that had complete data. **STATA** software package was then used to run the regressions.

To test the hypotheses and because the data used for this study is panel data, both fixed and Random effects Regressions were run, then using Hausman's specification test, the fixed effect model is found to be preferred.

The findings of the study are stated as follows:

i Dividend yield has a coefficient of -0.3411333 with a probability of 0.038;

ii The dividend payout ratio has a coefficient of -0.19009464 with a probability value of 0.046;

iii Leverage has a coefficient of 0.7801703with a probability value of 0.000;

iv The coefficient of size is -0.0449663 with a probability value of 0.000;

v The coefficient of growth is 0.0023478 with a probability value of 0.990;

vi The dummycoefficient is 0.0006095 with a probability value of 0.992

5.2 Conclusion

The conclusions drawn from this study are as follows:

i. Dividend yield drives stock return volatility negatively;
ii. Dividend payout ratio has negative influence on stock return volatility;
iii. Leverage derives stock return volatility positively;

iv. Firm size affects stock volatility negatively;

v. There is no causal relationship between firm growth and stock return volatility;

vi. The behavior of investors does not change on dividend and at period when there is no financial crisis and the period of financial crisis.

5.3 Recommendations

This study provides the following recommendations:

i. Managers of quoted companies should use the findings of this study to implement dividend policy that will benefit the shareholders. Being agents of the shareholders, their position should be maximizing shareholders wealth. They should do that by increasing dividend amounts in order to reduce investment risk.

ii. Government and government agencies should use the findings of this study to make regulations that will benefit the investing public. If Government and its agencies such as Securities and Exchange Commission do not do that, there will be no confidence in the capital market. Lack of confidence will impair funds flow to the market.

iii. Institutional investors should capitalize on the findings of this study to take beneficial investment decisions. Institutional investors are bulk investors. They should seek for tested model results such as that provided by the findings of this study. This will help reduce losses on their investments.

iv. Informed members of the public should also use the findings of this study to benefit themselves. They should do this by investing in companies that pay high dividends. This action will reduce investment risk and will increase share price.

5.4 Limitations of the Study

There is hardly any study conducted without the research encountering some limitations. This study is therefore not without its limitations. Many Nigerian companies do not pay regular dividends. The intention of the researcher is to conduct a research with reliable findings. In trying to do that, only companies with regular dividend payments for the study period were selected. In doing that, however, the size of the sample is reduced below that initially intended

Many researchers in this area use market capitalization of the stock exchange as a proxy for firms' size. The Nigerian stock exchange does not have records for annual capitalization required for this study. The researcher uses a substitute proxy,asset size, to measure firm's size, also used by some researchers. The use of asset size to measure firm's size may not be an exact substitute for market capitalization, so, may impair on the results.

5.5 Areas for Further Study

This research does not claim to cover everything in the area of dividend policy and stock price volatility. Some areas are yet to be explored. Studies can be conducted to cover longer period of time. Such studies may show sustenance of the linkage between dividend policy and stock price volatility.

Similarly, studies may be conducted that would break the firms into small and large firms. It is theorized that small firms are riskier than large firms because small firms are less diversified. Studies should be conducted to measure the effect of size.

Studies can be conducted to test the linkage between dividend policy and price volatility, industry by industry. This will be to establish whether price volatility varies across industries.Further, research may be conducted to test whether dividend initiations or normal dividend announcements have equal impactsor not. Understanding whether the impacts are the same or not, will help in advancing the knowledge of dividend impact.

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APPENDIX A

VARIANCES INFLATION FACTORS AND TOLERANCE OF DY AND POR

Variable	VF	$1/_{V/F}$
DY	1.06	0.943587
POR	2.08	0.4808
LVE	1.09	0.9174
SZ	1.02	0.9803
GR	2.03	0.4926
Mean V/F	1.456	

APPENDIX B

BREUSCH – PAGAN/COOK –WEISBERG TEST FOR HETEROSCEDASTICITY

Chiz (1)	**3.11**
Probability of Chiz	**0.0779**

APPENDIX C

FIXED EFFECT REGRESSION OF PV ON DY AND POR

```
. xtset id year, yearly
       panel variable:  id (strongly balanced)
        time variable:  year, 2002 to 2012
                delta:  1 year

.
. xtreg pv dy por, fe

Fixed-effects (within) regression               Number of obs      =       143
Group variable: id                              Number of groups   =        13

R-sq:  within  = 0.0803                         Obs per group: min =        11
       between = 0.1410                                        avg =      11.0
       overall = 0.0861                                        max =        11

                                                F(2,128)           =      5.59
corr(u_i, Xb)  = -0.1130                        Prob > F           =    0.0047
```

APPENDIX D

Random Effect Regression of PV on DY and POR

```
. xtreg pv dy por, re

Random-effects GLS regression                   Number of obs      =       143
Group variable: id                              Number of groups   =        13

R-sq:  within  = 0.0801                         Obs per group: min =        11
       between = 0.1435                                        avg =      11.0
       overall = 0.0866                                        max =        11

                                                Wald chi2(2)       =     12.76
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0017
```

pv	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
dy	-.7844313	.3133924	-2.50	0.012	-1.398669	-.1701935
por	-.2365126	.0937903	-2.52	0.012	-.4203383	-.0526869
_cons	.8444109	.0700172	12.06	0.000	.7071798	.981642
sigma_u	.09071278					
sigma_e	.31971328					
rho	.07450568	(fraction of variance due to u_i)				

Estimates store random

APPENDIX E

FIXED EFFECT REGRESSION OF PV ON DY, POR, LEV, SZ, GR AND GFC

```
. xtreg pv dy por lev size gr gfc,fe

Fixed-effects (within) regression               Number of obs      =       143
Group variable: id                              Number of groups   =        13

R-sq:  within  = 0.3782                         Obs per group: min =        11
       between = 0.0009                                        avg =      11.0
       overall = 0.2751                                        max =        11

                                                F(6,124)           =     12.57
corr(u_i, Xb)  = -0.2312                        Prob > F           =    0.0000
```

pv	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dy	-.3411333	.1623012	-2.10	0.038	-.6623729	-.0198937
por	-.1909464	.0948192	-2.01	0.046	-.3786203	-.0032726
lev	.7801703	.127224	6.13	0.000	.5283584	1.031982
size	-.0449663	.0111822	-4.02	0.000	-.067099	-.0228336
gr	-.0023478	.1930894	-0.01	0.990	-.3845259	.3798303
gfc	.0006095	.0603197	0.01	0.992	-.11878	.1199991
_cons	1.145826	.1268832	9.03	0.000	.8946889	1.396963
sigma_u	.15775846					
sigma_e	.2670968					
rho	.2586318	(fraction of variance due to u_i)				

```
F test that all u_i=0:     F(12, 124) =     3.46                 Prob > F = 0.0002

. estimates store fixed
```

APPENDIX F

RANDOM EFFECT REGRESSION OF PV ON DY, POR , LEV,SZ, GR AND GFC.

```
. xtreg pv dy por lev size gr gfc,re

Random-effects GLS regression                   Number of obs      =       143
Group variable: id                              Number of groups   =        13

R-sq:  within  = 0.3718                         Obs per group: min =        11
       between = 0.0075                                        avg =      11.0
       overall = 0.2831                                        max =        11

                                                Wald chi2(6)       =     59.74
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000
```

pv	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
dy	-.4125753	.1579063	-2.61	0.009	-.7220659	-.1030847
por	-.1518119	.0826079	-1.84	0.066	-.3137204	.0100965
lev	.6305235	.1244984	5.06	0.000	.386511	.874536
size	-.0391829	.010984	-3.57	0.000	-.0607111	-.0176547
gr	.0727905	.1856377	0.39	0.695	-.2910526	.4366337
gfc	-.002301	.0624002	-0.04	0.971	-.1246031	.1200011
_cons	1.081911	.1190277	9.09	0.000	.8486213	1.315201
sigma_u	.05203301					
sigma_e	.2670968					
rho	.03656317	(fraction of variance due to u_i)				

```
. estimates store random
```

APPENDIX G

HAUSMAN SPECIFICATION TEST

```
. hausman fixed random

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |    fixed         random       Difference          S.E.
-------------+------------------------------------------------------------
          dy |   -.281451     -.3716957        .0902447        .0335837
         por |  -.1523217      -.123599       -.0287227        .0438477
         lev |   .7976845       .689284        .1084005        .0307311
        size |    -.04668     -.0417018       -.0049782        .0024563
          gr |   .0440834     .0956114        -.051528        .0524857
         gfc |  -.0003879     -.0052951        .0049072              .
------------------------------------------------------------------------------
                           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(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =      2608.93
                Prob>chi2 =       0.0000
                (V_b-V_B is not positive definite)
```

APPENDIX H

LIST OF COMPANIES IN THE NIGERIAN STOCK EXCHANGE

ALTERNATIVE SECURITIES MARKET

Smart Products Nigeria Plc

McnichilsPlc

Rokana Industries Plc

Afrik Pharmaceuticals Plc

AdswithchPlc

Anino International Plc

Capital Oil Plc

Rak Unity Pet. Comp. Plc

Union Ventures & Pet. Plc

JuliPlc

AGRICULTURE

Ftn Cocoa Processors Plc

Okomu Oil Palm Plc

PrescoPlc

EllahlakesPlc

Livestocks Feeds Plc

CONGLOMERATES

A.G. Leventis Nigeria Plc

ChellaramsPlc

John Holt Plc

Scoa Nigeria Plc

Transitional Corporation Plc

UacnPlc

CONSTRUCTION/ REAL ESTATE

ArbicoPlc

Cappa&D'albertoPlc

Costain (Wa) Plc

G. CappaPlc

Julius Berger Nigeria Plc

Roads Nigeria Plc

Pinnacle Point Group Plc

Uacn Property Development Plc

Skye Shelter Funds Plc

CONSUMER GOODS

DnTyre& Rubber Plc

Champion Breweries Plc

Golden Guinea Breweries Plc

Guinness Nigeria Plc

International Breweries Plc

Jos International Breweries Plc

Nigerian Breweries Plc

Premier Breweries Plc

7-Up Bottling Plc

Big Treat Plc

Dangote Flour Mills Plc

Dangote Sugar Refinery Plc

Flour Mills Nigeria Plc

Honeywell Flour Mills Plc

P.S. Mandrides And Co. Plc

Multi-Trex Integrated Plc

Natinal Salt Co. Nig. Plc

N. Nigeria Flour Mills Plc

Union Dicon Salt Plc

Utc Nigria Plc

Cadbury Nigeria Plc

Nestle Nigeria Plc

Nigerian Enamelware Plc

Vitafoam Nigeria Plc

Vono Products Plc

P.Z. Cussons Nigeria Plc

Unilever Nigeria Plc

FINANCIAL

Access Bank Plc

Diamond Bank Plc

Ecobank Transitional Incorporation Plc

Fidelity Bank Plc

Guaranty Trust Bank Plc

Intercontinental Bank Irr.Plc

Skye Bank Plc

Starling Bank Plc

UbaPlc

Union Bank Plc

Unity Bank Plc

Wema Bank Plc

Zenith Bank Plc

African Alliance Insurance Plc

Aiico Insurance Plc

Continental Reinsurance Plc

Cornerstone Insurance Plc

Custodian And Allied Insurance Plc

Equity Assurance Plc

Great Nigerian Insurance Plc

Goldlink Insurance Plc

Guinnea Insurance Plc

Consolidated Hallmark Insurance Plc

Investment And Allied Assurance Plc

International Energy Insurance Plc

Lasaco Assurance Plc

Law Union And Rock Ins. Plc

Linkage Assurance Plc

SERVICES

Mansard Insurance Plc

Mutual Benefits Ass.Plc

N.E.M Insurance Co. Nig. Plc

Niger Insurance Co. Plc

Oasis Insurance Plc

Prestige Assurance Plc

Regency Alliance Ins. Plc

Sovereign Trust Insurance Plc

Staco Insurance Plc

Standard Alliance Ins. Plc

Unic Insurance Plc

Unity Kapital Assurance Plc

University Insurance Coy.Plc

Wapic Insurance Plc

Fortis Microfinance Bank Plc

Npf Microfinance Bank Plc

Abbey Building Society Plc

Aso Saving And Loans Plc

Resort Savings And Loans Plc

Union Homes And Savings And Loans Plc

Africa Prudential Rgistrars Plc

Fcmb Group Plc

Deap Capital Management Plc

Fbn Holdings Plc

Nigeria Energy Sector Funds Plc

Royal Exchange Plc

Som Capital Alliance Value Plc

Stanbic IBTC Holdings Plc

HEALTH CARE

EkocorpPlc

Union Diagnostic & Clinical Service Plc

Morison Industries Plc

Evans Medical Plc

Fidson Healthcare Plc

GlaxoSmithkline Consumers Nig. Plc

May & Baker Nigeria Plc

Meimeth International Pharm. Plc

Nigeria-German Chemicals Plc

Pharma-DekoPlc

ICT

Courtville Business Solution Plc

Omatek Ventures Plc

Mtech Communications Plc

Ncr (Nigeria) Plc

TrippleGree And Company Plc

E-Transact Intenational Plc

Starcomms Plc

His Plc

His Nigeria Plc Preference

His Nigeria Plc-Pref

MtiPlc

INDUSTRIAL GOODS

African Pains (Nigeria) Plc

Ashaka Cement Plc

Berger Paints Plc

Cap Plc

Cement Co Of North Nig. Plc

Dangote Cement Plc

Dn Meyer Plc

First Aluminium Nigeria Plc

IpwaPlc

Paints And Coatings Manufacturers Nigeria Plc

Portland Paints & Products Plc

Premier Paints Plc

Lafarge WapcoPlc

AustineLaz& Company Plc

CutixPlc

Nigeria Wire And Cable Plc

Avon Crowncaps& Containers Plc

Beta Glass Co. Plc

Poly Products (Nig.) Plc

Grief Nigeria Plc

W.A. Glass Co. Plc

Nigeria Ropes Plc

Nig. Sew. Mach. Man. Co.Plc

StikvisNigriaPlc

NATURAL RESOURCES

Bo.C. Gasses Plc

Aluminium Estrusion Industries Plc

Aluma Co Plc

Multiverse Plc

Thomas Wyatt Nigeria Plc

OIL AND GAS

Japaul Oil & Maritime Services Plc

OandoPlc

AfroilPlc

Beco Petroleum Product Plc

ConoilPlc

EternaPlc

Forte Oil Plc

Mobil Oil Plc

Mrs Oil Nigeria Plc

Total Nigeria Plc

SERVICES

AfromediaPlc

Lennards (Nigeria) Plc

R.T. BriscodePlc

Red Star Express Plc

Trans-Nationwide Express Plc

C & T Leasing Plc

Tantalizers Plc

Capital Hotel Plc

Ikeja Hotel Plc

Tourist Company Of Nigeria Plc

Daar Communication Plc

Academy Press Plc

Learn Africa Plc

Studio Press (Nig.) Plc

University Press Plc

Abc Transport Plc

Interlinked Technologies Plc

Secure Electronic Tech. Plc

Airline Services and Logistics Plc

Nigerian Aviation Handling Co. Plc

APPENDIX I

LIST OF ABBREVIATIONS USED IN THE STUDY

B	Beta
BRVM	Bourse Regionele Des Valeurs Mobilieres
B-S	Black Scholes Model
CSST	Capital Structure Substitution Theory
DPS	Dividend per-Share
DY	Dividend Yield
GDP	Gross Domestic Product
MM	Miller and Modigiani
OPEC	Organization of Petroleum Exporting Companies
POR	Payout Ratio
R	Return on Investment
SPSS	Statistical Package for Social Science
VIF	Variance Inflation Factor