EFFECT OF DIVIDEND POLICY ON FINANCIAL PERFORMANCE OF QUOTED COMPANIES IN NIGERIA

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NSU/ADM/MSC/ACC/051/14/15

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A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, NASARAWA STATE UNIVERSITY KEFFI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF SCIENCE (MSC) DEGREE IN ACCOUNTING AND FINANCE

DEPARTMENT OF ACCOUNTING

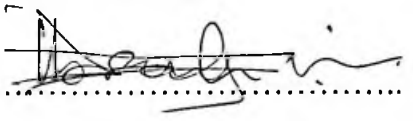
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NIGERIA

DECLARATION

I hereby declare that this dissertation has been written by me and it is a report of my research work. It has not been presented in any previous application for diploma or degree. All quotation are indicated and sources of information specifically acknowledged by the means of references.



29/1/2021

IBRAHIM DANJUMA **DATE**

NSU/ADM/MSC/ACC/051/14/15

CERTIFICATION

This dissertation entitled Effect of Dividend Policy on Financial Performance of Quoted Companies in Nigeria, meets the regulations governing the award of Master degree of the School of Postgraduate Studies of Nasarawa State University for its contribution to knowledge and literally presentation.

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DEDICATION

I dedicate this work to My Late Father Alh Danjuma Usman, My Mother Late Hajiya Hauwa Bello and Uncle Mallam Musa Bello

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All praises is due to Almighty Allah, the most Beneficent and most Merciful. I thank Him for His mercies, protection, wisdom and strength given to me to undergo M.Sc. program and completion of this research work

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ABSTRACT

This work examines the effect of dividend policy on financial performance of quoted companies in Nigeria. An Ex-post facto (after-the-fact) research design was adopted. This design suggests that a research is conducted after the event has taken place and required data already in existence. This study utilized secondary data. Data was obtained from the financial statements including statement of comprehensive income and statement of financial position from the individual company websites from 2008 to 2017. Data on dividend per share, Earnings per share, dividend payout and book value per share were used to calculate from the statement of account. It is recommended that Companies should improve on the amount of dividend per share paid to shareholders as this can lead to improved their performance and the ratio of payment to dividend should also be improved as this can bring about better performance standard. The decision on earnings of shareholders should also be considered as this can make managers to employ the possible ways of generating high earnings for the company. These data were subject to regression analysis using STATA Version 13. The result of findings with the aid of regression analysis revealed that dividend per share has a positive and significant effect on financial performance of companies in the area covered by the study. While the second hypothesis showed that dividend payout ratio has a coefficient of 11.98152 and a p-value of 0.000 test criteria the study reject the null hypothesis. The regression result reveal that dividend payout ratio has a positive and significant effect on financial performance of companies in the area covered by the study.

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CHAPTER ONE

INTRODUCTION

1.1 Background to Study

Dividend policy in corporate finance is a decision made by the directors of a company about the amount and timing of any cash payment made to the company`s shareholders. Dividend policy is an important part of the present day corporate organization as it may influence its capital structure, stock price and corporate performance. The firm has to balance between the growth of the company and the distribution to shareholders. Many factors affect the performance of corporate organization and one of those factors is dividend policy. Dividend policy serves as a mechanism for control of a managerial opportunism. A dividend policy is an important aspect of corporate financial policy since it can have an effect on the availability as well as the cost of capital of companies.

Managers are saddled with the responsibility of making optimum investment decisions on behalf of the firm and ensuring the maximization of shareholders wealth. This can be achieved when firms generate sufficient profits and strategically decide the amount to be reinvested into the firm and/or distributed to shareholders. The distributed funds to shareholders are known as dividends.

According to Mukora (2014) dividends are distribution of cash to shareholders in proportion to their equity holding. He further explained that no company is compelled to declare a dividend and those that do may vary the amount. On the other hand, Zayol, Mya and Muolozie (2017) defined dividend policy as firm's dividend payout policy that mangers follow in deciding the pattern and size of cash distribution to shareholders in the

form of dividend. They further explained that it is the decision of management about the portion of income that is given to shareholders in the form of dividend. Dividend policy decisions regarding the distribution of profits in the form of dividends and the retention of profits for further use in the business could be in form of cash or share. Oliver and Ugah (2015) noted that dividend payment by corporate organizations is a fundamental expectation to shareholders and therefore ranks as one of the most important corporate decisions. A company's ability to consistently pay out increased levels of dividend over time, conveys information about the management's assessment of the firm's performance as well as its future prospects.

Financial performance can be viewed from various perspectives and they are different indicators for measuring firm's performance. Evaluating the financial performance of a firm allows management to access the results of business strategies and objectives in monetary terms. Various scholars have defined performance in different ways. According to Rahel and Serkalem (2010) they viewed performance in terms of profitability, they defined performance as, profitability which is a financial goal of every firm, used to expand the firm, and/or to serve as a cushion for future slow periods. They posits that profitability also helps a firm to ensure its solvency for owners to invest in the future and firms can go out of business, if it incurs loses and become insolvent and profit is generally attained only when a company operates effectively.

The pattern of corporate dividend policies does not only vary over time and across firms but also countries, especially between developed, developing and emerging capital markets. If the values of a company are the function of its dividend payments, dividend

policy will directly affect the firm`s cost of capital. Dividend is the return that accrues to shareholders as a result of the money invested in acquiring the stock of a given company (Eriki & Okafor, 2002). While dividend policy on the other hand is concerned with the division of net profit after taxes between payment to shareholders and retention for reinvestment on behalf of the shareholders (Kemper, 1980). The existence of some share price reactions on dividend announcement prompts an analysis of the evidence for both shareholders' clienteles and possible interaction of firm`s dividend polices with key activities such as internal investment. An aspect of the theory of dividend policy is part of a continuum of control allocation between managers and investors, and hence cross-sectional variations in dividend policy are driven by an underlying factor. The allocation of controls between the manager and investor is important not because of agency or private information problems, but because of its potentially divergent beliefs that can lead to a disagreement about the value of project available to the firm.

Corporate performance on the other hand is at the heart of the managerial function of an organization (Samuel, 1989). Analysis of corporate performance is mainly concerned with the development of a modelling methodology to help in the diagnosis of past performance and thus provide a framework for evaluating the effect of changes in operating parameters as a guide for future planning. The performance of an organization is measured by the choice of the management form of wealth to be held. If the performance of an organization is good, there will be little or no disagreement between the management and shareholders. In evaluating corporate performance, the emphasis is on assessing the current behavior of the organization in respect to its efficiency and effectiveness. To measure overall corporate

performance goals are set for each of these perspective and specific measure for achieving such goals determined, each of these perspective is critical and must be considered simultaneously, and to succeed in the long-run. Any area is either over-emphasized or under-emphasized performance evaluation will become unbalanced. In this way, the aim of the concept is to establish a set of measures both financial and non-financial, through which a company can control its activities and balance its various measure to effectively track performance.

Dividend policy are an integral part of corporate financial management policy. Investment decision requires an appropriate choice and combination of internal and external sources of finance, which decision regarding dividends involves about determining portion of profit to be distributed among shareholders consequently restricting the internal sources of finance. If the amount of dividend paid is large, the residual funds retained for reinvestment purposes will be reduced and consequently the firm will have to depend upon alternative sources of long term finance like further issues of equity and/or debt capital to finance current and new project.

Therefore, for dividends policy, the internally generated funds that is profitability needs to be a top priority for firms. Dividend policy remains one of the key issues in corporate finance since it affects the firm's value and shareholders' wealth. Dividend policy is the financial policies regarding paying cash dividend and are of the most enduring issues in financial research, many controversies regarding large number of conflicting hypothesis, theories and explanations have attracted many academic interest on dividend policy

(Frankfurter & Word, 1997). Dividend is a payment either in cash or other forms that corporations pay to their own shareholders. They are regarded by shareholders as the return on the investment made in the corporation. The Board of Directors has primary responsibility for drafting the dividend policy and decides whether to pay dividends or not. This study aims to determine the effect of dividend policy on financial performance of quoted consumer goods companies in Nigeria.

1.2 Statement of the Problem

The nature of association between financial performance and dividend policy of firms has faced unresolved debate by researchers for a substantial period of time (Dada, Malomo & Ojediran, 2015). For firms with increased returns, it has been argued that, it is more sensible to reflect such financial outcome by distributing more cash dividends to the shareholders. Financial performance and dividend policy studies were dominated on firms listed at securities exchange located in developed countries such as United States of America (USA), Britain and Japan while firms in emerging economies were ignored (Maniagi et al 2013). Globally, empirical literature showed mixed findings regarding relationship between financial performance and dividend policy. In Kenya, a study carried out by Odawo (2015), revealed that dividend policy of firms listed at the Nairobi securities exchange depend on the firm liquidity, debt equity ratio, profitability and firm size. Bulla (2013) sought to investigate the causes of variations in dividend policy of public firms listed at the Nairobi securities exchange. The factors under consideration in this study were;

current firm returns, dividend yield and the size of the firm. It was established that the three factors influenced dividend payout ratio in a significant manner.

In Nigeria, much as been done empirically (Uwuigbe, 2013; Kajola, Adewumi and Owuru, 2015; Monoghe and Ibrahim, 2015; Harley and Ayodele, 2017) on the issue of dividend policy and financial performance with results advancing mix reactions. While most of the studies have agreed with the assertion that dividend policy is one of the major determinants of firm performance some have totally disagreed. Again, most of these studies investigate this phenomenon on selected quoted companies in Nigeria ignoring a sectorial examination. The factors under consideration in this study were; dividend per share, earnings per share, dividend payout ratio, book value per share as well leverage and firm size as control variables. This study will use consumer goods sector as there is evidence of paucity of sectorial research in literature regarding this topic. Based on the identified problems and the gap in literature this current study empirically investigates the effect of dividend policy on financial performance of quoted consumer goods companies in Nigeria using return on assets as proxy for financial performance.

1.3 Research Questions

The following research questions were raised in order to achieve the objective of the study

i. What is the effect of dividend per share on financial performance of quoted consumer goods companies in Nigeria?

ii. What is the effect of dividend payout on financial performance of quoted consumer goods companies in Nigeria?

1.4 Objectives of the Study

The main objective of this study is to examine the effect of dividend policy on financial performance of quoted consumer goods companies in Nigeria. The specific objectives: to

i. ascertain the effect of dividend per share on financial performance of quoted consumer goods companies in Nigeria.
ii. determine the effect dividend payout ratio on financial performance of quoted consumer goods companies in Nigeria

1.5 Statement of Hypotheses

From the statement of the problem the following hypotheses are formulated in null form:-

Ho_1: dividend per share has no significant effect on performance of quoted consumer goods companies in Nigeria.

Ho_2: dividend payout ratio has no significant effect on performance of quoted consumer goods companies in Nigeria.

1.6 Significance of the Study

This study examines the effect of dividend policy on corporate financial performance of quoted consumer goods companies in Nigerian. Corporate managers especially of listed companies can use the findings of this study to make decisions about how to pay, when to pay dividends, how much dividends to pay and who to pay those dividends.

This study is critical to investors as it will help them interpret announcements of dividend payment and changes thereto. It would thus enable them make more informed decisions on

investments performance. It will help them to determine worthy investments through the firm's value determined by the dividend policy. As part of the ongoing debate on the relationship between dividend payout and firm financial performance, this study came in handy to give more information, The study goes a long way in explaining to the Academicians as to the importance of dividend policy since it forms a basis of other theories of finance such as asset pricing, capital structure and capital budgeting. It therefore introduces a deeper understanding of corporate dividend policy and hence help academicians develop more advanced financial models. Academicians will also find the findings of this research useful in forming a basis for further research or extending their studies.

This research will assist managers know how their decisions on the various dividend policies affect corporate performance. This will enable them to take such decisions as to avoid decisions that will prompt reactions among stakeholders capable of inversely influence the performance of the company. Using the discovery from the study company agents will also be able to make informed decisions so as to maximize performance.

The study will assist investors in making rationale choice in investment most especially in organizations with higher return and the variables that prompt higher organizational performance.

1.7 Scope of the study

The scope of the study is the entire quoted companies in the consumer goods sector in Nigeria. To accomplish this objective, information will be extracted from the Nigeria Stock

exchange fact book and annual reports and account of companies. The study specifically covers variables such as dividend per share, dividend payout, earning per share and book value per share. And it limited to the relationship between dividend policy and financial performance from 2008 to 2017.

CHAPTER TWO
REVIEW OF LITERATURE

2.1 Conceptual Framework

2.1.1 Concept of Dividend Policy

Dividend is the portion of the profit after tax, which is distributed to the shareholders for their investment bearing risk in a company. Dividend payout policy is the firm's decision of whether, how and when to distribute cash to the stockholders. Dividend provides cash flows to the shareholders as well as information about the firm's current and future financial performance. The dividends generally influence the share price in a positive direction as shown by earlier empirical works (Irmala, Sanju and Ramachandran, 2011; Khan & Amanullah, 2012). Dividend payment is a major component of stock return to shareholders (Zakaria, et al 2012). Jo and Pan (2009) assert that dividend payment could provide a signal to the investors that the company is complying with good corporate governance practices. Dividend payout is the amount of cash that a company sends to its shareholders in the forms of dividends. The company can decide to send all the profits back to its shareholders or investors, or could keep a portion of it as retained earnings. Healthy dividends payouts thus indicate that companies are generating real earnings rather than cooking books (Barron, 2002).

The dividend policy of companies has been a common subject of research for more than half of a century (Litner, 1959; Gordon,1959; Modigliani, 1982; etc). The value relevance

of dividend policy has been in the forefront of financial research since Miller and Modigliani's (1961) pioneering Work.

Dividend policy has long been an issue of interest in the financial literature and, despite the vast research on the topic, it remains an open subject. Ever since the work of John Lintner (1956), followed by the work of Miller and Modigliani (1961), dividend policy remains a controversial issue. In fact, this has been true since Miller and Modigliani"s (1961) irrelevance proposition, according to which dividend policies are all equivalent and there is no particular policy that can increase shareholders' wealth in perfect capital markets.

There are four dividend policies in practice as outlined by Pandey (2010);

i. residual dividend policy which dictates the payment of dividends in the absence of investment opportunities,
ii. constant amount per share,
iii. constant amount per share plus extra depending on profits
iv. constant payout ratio.

Owning corporate stock is a popular investment activity (Gitman, 2006). All types of investors either large institutional or individual could see the new media for the report on the movements of the stock prices. Share prices are the most important indicators used by investors to invest or not to invest on a particular share. Their main objective of investing in the stock market is to maximize the expected return at low level of risk.

Dividend payment is a major component of stock return to shareholders. Dividend payment could provide a signal to the investors that the company is complying with good corporate governance practices Huka (1998). Good corporate governance practices are valuable for a company as it is implying that the company is able to raise funds from capital market with attractive terms. By distributing dividend, it's able to attract investors and indirectly increase the company share price. This sort of company could easily raise funds through new share issuance for expansion which then would increase profits and increase share price.

Dividend policy provides the management with guidelines and regulations to determine the proportions of the firm returns to be retained and to be distributed to the shareholders as cash dividend respectively (Alii, Khan & Ramirez, 1993). Dividend policy is the schemes and rules followed by the management when rewarding the owners of the firm for investing their financial resources in that venture (Nissim & Ziv, 2001). Kehinde and Abiola (2001) defined dividend policy as a plan that guide management to distribute the returns of a firm to the common stock investors using diverse forms of dividends within a certain period of time. The scheme followed by a firm to distribute income, aims at achieving specific goals (Brigham & Ehrhardt, 2012). According to Litner (1956), management continuously alternate the rate of dividend payments until it reaches an optimal dividend policy level in the long run. Hence dividend policy is summarized into three perspectives; the amount to pay, the frequency of dividend payments and the mode of paying dividends which is either in cash or non-cash form.

The amount paid to shareholders by the management is further guided as either residual or stable dividend policies. The residual policy is employed by companies which rely on retained earnings to facilitate profitable projects identified (Aduda & Kimathi, 2011). This approach is applicable once all financing requirements of the firm have been met. Myers (1984) argued that firms distribute cash dividends to shareholders once all ventures which are viable have been fully financed using firm earnings. The implication of this action is that firms give first priority to the available profitable investment opportunity and then reward shareholders with cash dividends in case there are some cash residuals. Hence, the amount of cash to be distributed to them are some cash residuals. Hence, the amount of cash to be distributed to the shareholders is determined by the cash remnants after capital investment.

Contrary to residual approach, stable dividend policy entails payment of regular installments of a specific cash dividend quantity on yearly basis regardless of company return fluctuations (Ap Gwilym, Morgan & Thomas, 2000). Such guidelines include; fixed payout policy, fixed dividend per share policy and low-regular plus extra policy. The constant payout policy involves fluctuating periodical distribution of cash dividend to shareholders for the dividend plan is guided by a predetermined fixed proportion of the firm earnings. The shortcomings of this approach arise when earnings drop or worsen. In such a case the company experiences losses hence it will be forced to pay less or no dividend at all. This makes investors less assured of their cash dividend reward (Brigham & Ehrhardt, 2012). The constant dividend per share is a dividend scheme whereby management sets a fixed amount of cash dividend per share to be paid to shareholders at

any given period of time which translates to a periodical constant rate of change on dividend paid. This reduces uncertainty on future dividends since dividends become more predictable and as a result, the management makes an upward adjustment of cash dividend to be paid to shareholders if they are assured of permanent future firm earnings (AP Gwilym *et al.* 2000).

The low-regular plus extra policy involves payment of low regular dividends supplemented by an additional dividend whenever the company's earnings are good or higher than normal in a given dividend period. The dividend strategy is convenient to the management for it can match low income seasons and high income periods with low to high rates of cash dividend in that order. This dividend arrangement creates confidence to shareholders for they are assured of at least some returns even during the loss making periods of the firm and also share improved returns when the firm has made a fortune in a particular period of time (Marsh, 2012).

Frequency of dividend payment is taken to imply the dividend timing which in the Nigerian context is commonly done semiannually (interim dividend) or at the end of the financial period (proposed dividend). Interim dividend is that part of total surplus declared and paid before the end of the financial period and the time intervals for making such payments is either quarterly or semiannually (IASB, 1998). Prior to payment of interim dividend, the accounting books of the firm are checked and confirmed by auditors. Final dividend, also known as proposed dividend is that part of firm earnings that is declared by the management at the end of the financial period to be paid at a later date based on audited

financial results. In addition, the interim dividend paid in the course of the financial period, is assumed to be the final reward to the shareholders if the firm does not provide for final dividend (IASB, 1998).

Distribution of dividends to shareholders is also based on the manner of rewarding. The mode of distributing dividends to shareholders was classified by Copeland (1979) as cash and non-cash form. Although distribution of firm wealth is commonly done through cash dividend. In such a case, shareholders get a chance to invest the cash received in other opportunities of their choice, whereby the act adversely affect the firm net asset value. This is because payment of cash dividend entails an actual cash outflow which calls for taking precautions to avoid damage of liquidity position of the firm; hence a safety cash reserve is required. Fakru and Thoufiqulla (2013) defined stock dividend as the distribution of additional shares to the already existing shareholders free of charge. It is also referred to as of bonus or script issue. To measure bonus issue, Kibet *et al.* (2016) established a bonus ratio expressed as number of new shares (bonus) to existing shareholders per annum. Property is sometimes used as dividend whereby the shareholders are allocated physical assets instead of cash or additional free stocks. Murekefu, et al (2012) says that cash dividend announcement convey valuable information which shareholders do not have about management's assessment of a firm's future profitability, thus reducing information asymmetry. Such information can be made use of by investors in assessing the firms' financial performance and making investing decision.

The model developed by Musa (2005) for the purpose of explaining and predicting the dividend payment of corporate firms in Nigeria. Musa's parsimonious multiple regression model has been developed using the confirmatory specification approach and has been structured using the Ordinary Least Squares (OLS) method. The model uses dividend change (CD), and five principal explanatory variables – Current Earnings (Eit). Preceding Year Dividend [DIV (t-I)], Cash Flow (CF), Investment (INV) and Net Current Assets (NCA) as explanatory variables. Three dummy variables – Growth (DI), Firm Size (D2) and Industry Classification (D3) have also been separately added to the base model. Musa (2009)

Dividend policy no doubt influences the decision of both local and foreign investors (Musa, 2001). Studies on dividend policy are therefore of clear policy relevance, especially for a country that is interested in rapid and sustained economic growth.

Researchers on corporate dividend policy have over the years followed two divergent paths. Some researchers have followed a behavioural approach by surveying the opinion of corporate managers in order to gain insight into the factors they consider most important in determining their firms' dividend policy. Studies in this category include the works of Baker et al. (1985), Farrelly etal. (1986), Baker and Farrelly (1988), Pruitt and Gitman (1991), Baker and Powell (1999, 2001) and Mainoma (2001). These studies found that different managers at different times attach varying importance to the factors that influence a firm's dividend decision. However, certain factors such as level of current and past earnings and the pattern of variability of past dividends have emerged as consistently important over the years.

2.1.2 Concept of Dividend Per Share

Prior literatures depicted a positive signification relationship between dividend per share and market stock price (Zahir & Khanna, 1982; Irfan and Nishat, 2000; Gitmon and Lowrence, 2004; Sharma, *2011).* Srinivasan (2012) discovered a negative significant relationship between dividend per share and market stock price of Manufacturing, Pharmaceutical, Energy, and Infrastructure Company.

Consequently, the principle of wealth creation in finance is mostly based on the notions of dividend payouts and share (stock) price increases. A number of scholars who believe in wealth creation, such as, Bainbridge (1993); Jensen (2001); Brigham & Ehrhardt (2002); Brealey and Myers (2003), and Moyer, McGuigan & Kretlow (2003) argue that shareholders' wealth is maximized when the company gives out a regular dividend to shareholders and when the stock price appreciates on the stock market so that the investor makes some capital gains. It is assumed that stock holder wealth creation is the priority objective of most listed companies (Watson & Head, 1998), and therefore existing and potential shareholders focus much on how their investment in a listed company will be safeguarded and multiplied to their economic benefit.

Emekekwue (2008) defined dividend as that portion of after tax profit that is shared out to the shareholders as reward for investment. According to him, dividend puts disposable income in the hands of shareholders. He therefore classified divided into three main types: Cash dividend, Stock dividend and Stock splits. Similarly, Pandey (2005) defines dividend

as that portion of a company's net earnings which the directors recommend to be distributed to shareholders in proportion to their shareholdings in the company. The dilemma is whether the management of a firm should distribute cash to shareholders or reserve the cash to finance new investments. Dividends represent a direct payment to shareholders. Earnings that are retained by the firms increase the value of the firm in that they can either be invested in projects within the firm that will enhance future earnings or be invested elsewhere at the market interest rate and be paid out as dividend in the future (Baye and Jansen, 2006).

Enhancing shareholders wealth and profit making are among the major objectives of a firm (Pandey, 2005). Shareholders wealth is mainly influenced by growth in sales, improvement in profit margin, capital structure decisions (Azhagaiah and Priya, 2008). Firm's performance in this case can be viewed as how well a firm enhances its shareholders. Dividend policy can affect the value of a firm and in turn, the wealth of shareholders (Baker et al, 2001). Dividend policy is therefore, considered to be one of the most important financial decisions that corporate managers encounter (Baker and Powell, 1999). It has potential implications for share prices and hence returns to investors, the financing of internal growth and equity base through retentions together with its gearing and leverage (Omran and Pointon, 2004). Hence a firm ought to pay dividends to shareholders if it cannot identify suitable investments which would bring higher returns than those expected by the shareholders.

2.1.3 Concept of Dividend Payout Ratio

Dividend payout ratio is the amount of dividends paid to stockholders relative to the amount of total net income of a company. The amount that is not paid out in dividends to stockholders is held by the company for growth. The amount kept by the company is called retained earnings. Investors seeking high current income and limited capital growth prefer companies with high dividend payout ratio. However, investors seeking capital growth may prefer lower payout ratio because capital gains are taxed at lower rate. High growth firms in early life generally have low or zero payout ratios. As they mature, they tend to return more of the earnings back to investors. Dividend payout ratio is calculated as dividend end per share all divided by earnings per share. This is the ratio of firm's earning over the dividend paid to the stockholders. It is the reciprocal of dividend payout ratio. Dividend cover depicts the degree to which dividend per share is protected by the firm's earning. It is calculated from literatures as earning per share divided by dividend per share. Zhou and Ruland (2006) revealed that high dividend payout firms tend to experience strong future earning but relatively low past earnings growth despite market observers having a contradicting view. Arnoth and Asness (2003) also revealed that future earnings growth is associated with high rather than low dividend payout. A high payout ratio means more dividends and less funds for expansion and growth. A low payout, on the other hand, results in a higher growth (Pandy, 2012). Considering dividend payout in information perspective, the dividends signaling theory prescribes that dividend payout can be used as a device to communicate information about a company's financial performance to investors.

2.1.4 Relationship between Dividend and Earning Per Share

A firm that earns profit faces the choice of allocation of its profits between dividends and reinvestment. Miller and Modigliani (1961) theorem says that investment policies are the main determinants of firm value and therefore dividend payments must be made out of the earnings in excess of the required capital expenditure. However, dividend payments are necessary and at least current dividends must be maintained (Lintner, 1956).According to Linter dividends must be paid out of earnings and not from residual earnings. In order to find out the relationship between dividend payouts and only permanent part of earnings or stable earnings, earnings were decomposed into permanent and transitory parts by Lee (1996) in a time series analysis. The study of dividends in relation to only permanent part of earnings supported the notion that dividends show strong behavior towards the permanent change in earnings- which is also called permanent earning hypothesis in literature. On the other hand there is a hypothesis called partial adjustment hypothesis which states that managers have a target dividend and they partially adjust their dividend to that target dividend over time (Lee, 1996).

They only make adjustments if they have reasonable indications to believe that the change in dividends will not have to diminish in near future. These inferences were made using vector auto regressive models and co integration regression and suggested that permanent adjustment hypothesis is true only in case where target dividends are in particular proportion of permanent income rather than current earnings. Fama and Babiak (1968), Pettit (1972) and Watts (1973) view earnings as the possible causation of dividends

particularly in case of micro behavior of individual firms. Their analysis and finding support the notion that managers increase dividend payments only to increase in unanticipated and non-transitory changes in earnings, which is also propagated by Lintner (1956).According to the theory of dividend stabilization in practice most of the firms adopt stable dividend policies that do not adjust their dividend policies straight away when their earnings change (Lintner, 1956) because firms are reluctant to decrease dividends thus they only increase dividends when they have reasonable evidence that the earnings will increase in future with stability (Miller & Modidliani, 1961).

Higher dividend payouts are associated with higher future earnings. Higher dividends and higher future earnings relationship was found in a company level or individual analysis. Zhou and Ruland (2006) analyzed this relationship under various conditions and results have strong association between dividend payouts and future earnings for example in case of different measures of earnings, after Controlling mean reversion in earnings, different sub-periods, taking into account different industry effects and impact of share repurchases. Zhou and Ruland, (2006) also tested Free Cash Flow Theory; relationship between payouts and earnings was found stronger for low growth companies or for companies which have tendency towards over-investment. Future earning information plays an important role in the determination of dividend policy.

2.1.5 Concept of Financial Performance

Leah (2008) defined financial performance as the measurement of the outcome of firm strategies, policies and operations in monetary terms. These results are reflected in the firm

return on assets and return on investments. Similarly, Adams and Mehran (2005) defined financial performance as the end result of primary utilization of firm assets to generate proceeds during ordinary business operations. Financial performance can also be used as a general measure of a firm overall financial level over a particular time duration and can be used for comparison of general performance of different firms operating in the same industry. In general, financial performance is a gauge to express the general financial productivity of an organization over a span of financial period and aids in comparison of financial results of other firms in the same sector.

Also, the level of financial performance explains the extent to which a firm has succeeded (Waweru, 2008). There is no one universally accepted proxy for measuring financial performance of a firm. From a wider perspective, financial performance of a firm takes both accounting and market based dimensions (Waggoner, Neely & Kennerley, 1999). The accounting based proxies used to measure financial performance are diverse and some of those measurements are; return on equity, earnings per share, return on assets and operating cash flows (Al-Malkawi, 2007). The shortcomings of using accounting based indicators is that it represents a short term financial performance implication to management and also their values are determined from historical data and therefore they cannot be fully relied upon to make future firm decisions (Klapper & Love, 2002). Another limitation of using these proxies is that they are anchored on Accounting based professional rules, regulations and standards. However, operating cash flows being one of the Accounting based proxies, it is least adversely influenced by the accounting practices (Ahmed & Javid, 2009). Current study used ROE and operating cash flows as accounting based approaches to measure

financial performance of the firms under study. Return on equity is the profit after tax to total equity quotient (Al-Malkawi, 2007). Operating cash flows is expressed as the coefficient of the sum of profit after taxation and noncash items and total assets net of cash and cash equivalents (MilletReyes & Zhao, 2010).

The market based indicators commonly used in measuring financial performance of a firm are wide-ranging. Some of those proxies are; Tobin's Q, market to book value, dividend yield and price earnings which are futuristic and long term in nature. These market-based proxies represent the expectations of the shareholders on the firm future performance (Omran & Pointon, 2004). The current study used market to book value and price earnings to gauge financial performance. The market to book value is a coefficient representing the ratio of market to book value of common stock (Fairchild & Li, 2005) whereas, price earnings is a coefficient of market price of common stock and earnings per share of a firm (Ehikioya, 2009).

2.2 Empirical Review

2.2.1 Dividend Per Share and Financial Performance

The concept of dividend policy has faced unresolved argument by researchers although it is a pivotal decision for the prosperity of firms in both advanced and upcoming economies (Hafeez & Attiya, 2009). The dynamics of dividend policy has remained anonymous in most study findings focusing on its relationship with other associated variables. The firm dividend policy practices by different firms has not been universally accepted (Brealey & Myers, 2003).

Maladjian and El Khoury (2014) sought to investigate the determinants of dividend policy of Lebanese banks, listed at the Beirut stock exchange. To examine this matter, seven variables were put under consideration, namely; firm productivity in terms of profitability, liquidness, debt equity coefficient, size of the firm, firm growth rate, risk profile and dividend payout ratio for the previous period. The study used unbalanced panel dataset of listed banks between 2005 and 2011. Two approaches were tested using the ordinary least squares and the dynamic panel regressions. It was depicted that a proportionate change of the size of the firm, risk level of the firm and previous year's dividend payout led to a proportionate change in dividend payout ratio. Whereas a simultaneous upward change in firm growth rate and earnings lead to less attractive change in dividend payout ratio.

Hashim *et al.* (2013) investigated on the determinants of dividend policy as it was in the case of Maladjian and El Khoury (2014) study. They focused on firms dominating the Pakistan banking sector. In their case, they identified nine independent variables, namely; firm size, leverage, agency cost, firm growth rate, risk, liquidity, profitability, previous year's dividend and ownership structure. A sample size of twenty-seven (27) overseas and local financial firms which provided banking services in both Islamic and orthodox sectors were selected for the study. The researchers utilized stepwise regression methodology and three study outcomes were realized. One, the study revealed that liquidity, profitability, last year's dividend and ownership structure had a strong direct link with dividend payout ratio. Second, liquidity depicted a negative relationship with dividend payout ratio and third, dividend payout ratio was not significantly influenced by size of the firm, leverage, agency cost, firm growth rate and risk level of the firm. Therefore, in these research

findings, it was ruled out that dividend payout ratio was high where the firm engaged in profitable ventures compared to less profitable ones although Maladjian and El Khoury (2014) established an indirect connection between profitability and dividend payout ratio, contrary to Hashim *et al.* (2013) study outcome.

Uwuigbe (2013) study investigated on the nature of linkage between financial performance and dividend policy of listed firms at the Nigerian stock exchange. The objective of the study was to examine the effects of financial performance, firm size, financial leverage and board independence on dividend payout ratio of firms listed at the Nigerian stock exchange market. Purposive sampling technique was used to select fifty (50) firms for the study. The financial records for the period between 2006 and 2011 were used to collect the relevant data. Regression methodology was used for data analysis where by it was established that the association between dividend payout ratio and firm size, board independence and financial performance was proportional and statistically significant for firms listed at the Nigerian bourse. Harley and Ayodele (2017) empirically investigated the impact of dividend policy on performance of quoted companies in a developing economy. The objective of the study was to empirically test some ratio variables likely to affect dividend policy on a multivariate methodology. The sample size of this study was twenty quoted firms in a developing nation actively operating within 2005 to 2016 in the stock market. It was deduced that there is a significant positive impact of dividend pay-out ratio (DPS) on return on asset of .176. One percent increase in dividend payout ratio will lead to a corresponding increase on the average of 0.176 in return of asset (ROA). From our analysis, we found out that the coefficient of determination (R) captured a significant portion of the

models applied in the study but model two become stronger. We also found out that there is a positive relationship between ROE and DPS of .540 and the slope of the regression line is .129. This indicate that one percent increase of DPS will lead to a corresponding increase on ROE. The study there concluded that profit after tax should be considered sensitive in relation to dividend payment.

Topal (2014) analysed the relationship between dividend policies and financial performances of the companies operating in Istanbul Stock Exchange. The study used data of 172 companies outside of financial sector from 2008-2011. Multiple regression was employed to analyse the data. The results of analysis showed that dividend payments had influence on firms' performances. Also, there was a positive and statistically meaningful relationship between the dividend per share rate within groups and market based performance indicator (Tobin's q) while there was a statistically insignificant relationship between accounting based performance indicators (ROA & ROE) and dividend per share rate. The study concluded that dividend polices of firms are influential on their performance. Rachid and Wiame (2016) examined the relationship between dividend policies and financial performance of selected listed firms in Morocco. Secondary data were analyzed using panel data regression model. The findings indicated that dividend payment and total assets had a significant and positive relationship with firm performance. The study therefore concluded that dividend policy was relevant.

Farrukh, Irshad, Khakwani, Ishaque and Ansari (2017) established the impact of dividend policy on shareholders' wealth and firm performance in Pakistan between 2006-2015. A sample of 51 firms were drawn and the regression result found out that dividend policy

proxied by dividend per share and dividend yield had positively significant impact on shareholders' wealth and firm performance. This study supported dividend relevance theory, signaling effect theory, bird in hand theory and clientele-effect theory. Mutie (2011) sought to determine the relationship between prior period dividends and the financial performance of firms listed at the NSE. The study reviewed related literature with regards to the area of study which seemed to favor the argument that dividend payment indeed leads to a better financial performance for a firm. To undertake the study, a population of all companies listed at the NSE was considered of which a sample of 34 companies was selected. The variables in the study were the firms' financial performance (earnings per share) and the prior period dividends (dividend per share). The study relied on secondary data collected from the companies' websites, CMA, NSE and ICPAK amongst other sources. The information was examined utilizing the exploitations of Statistical Package for Social Scientists (SPSS) and after that introduced as tables and charts. The consequences of the study uncovered that greater part of firms appreciate a superior money related execution as showed by their EPS in the wake of issuing profits. All things considered, a relationship without a doubt exists between earlier period profit installments and monetary execution of a firm. Notwithstanding, the study neglects to mull over different components that likewise influence the money related execution of a firm.

2.2.2 Dividend Payout and Financial Performance

Kajola, Adewumi and Oworu (2015) sought to find out the nature of linkage between dividend payout ratio and financial performance of nonfinancial firms registered at the

Nigerian stock exchange. A sample size of twenty-five (25) firms was selected for the study and secondary data was collected for a period of ten years, from 2004 to 2013. Both panel data and pooled ordinary least squares regression models were employed to establish the coefficient of predictor and the control variables respectively. Profitability was used as the predictor variable whereby it was measured using rate of return on assets whereas dependent variable was dividend policy which was measured using the dividend payout ratio.

The study by Kajola *et al.* (2015) classified firm size, asset tangibility and leverage as control variable. The study findings revealed that a proportionate change in dividend payout ratio resulted to a proportionate change in financial performance of the firms. In conclusion, the study recommended that firms should dedicate their time to determine the appropriate dividend policy that propels projects with positive NPV value.

Dividend payout and return on assets used in the study are only a component of dividend policy and financial performance respectively and does not fully represent all dimensions of the two variables. Murekefu and Ouma (2012) interrogated the relationship between dividend payout and firm performance of firms listed at the Nairobi securities exchange. Data obtained for the study was secondary for it was gotten from the financial statements of the listed firms. The study covered a time range of nine years, from 2002 to 2010. To measure dividend payout, actual amount of cash paid was used while for firm performance, profit after tax was used as proxy. Multiple regressions were performed and the outcome of the study showed that dividend payout ratio directly influenced firm performance and

the association was strong. It was concluded that dividend payout ratio is a key predictor of firm performance. The study recommended that managers should dedicate enough time to develop an appropriate dividend policy to boost firm performance. Umar and Saidu (2016) assessed the relationship between dividend policy and financial performance of oil and gas companies in Nigeria from 2005 and 2014. Pearson correlation and multiple regressions were used for the data analysis. The study found out that dividend payout has a significant positive relationship with the financial performance of the oil and gas companies. Also, dividend payout squared has a significant negative relationship with the financial performance of the companies. The study concluded that dividend payout of oil and gas companies has an optimal level beyond which the relationship tends to be negative. Adelegan et al. (2015) identified the determinants of dividend policy of firms in Nigeria from 2009 to 2013. The study analysed data of 48 manufacturing firms listed on the Nigerian stock exchange. The pooled regression result shows that total distributable earnings determines dividend payout of corporate firms in general in Nigeria. Results showed that dividend policy of manufacturing firms depends on profit after tax and earnings. The result also shows that the manufacturing firms ability to pay dividend depends more on profit after tax. The study therefore concludes that profit after tax and total distributable earnings are key determinants of firm dividend payment in Nigeria.

Shisia, Sang, Sirma and Maundu (2014) examined the effect of dividend policy on financial performance of companies quoted at the Nairobi Securities Exchange (NSE). The study sourced data from secondary sources. A sample of 30 listed companies at NSE was used and regression analysis was used in testing the hypotheses. The study concluded that

there is significant but negative relationship between dividend payout ratio and firm performance. Dogan and Topal (2014) carried out an investigation in their study to find out whether there existed a relationship between dividend policy and financial performance of firms listed at the Istanbul stock exchange. The study used data of 172 non-financial companies within a time span of four (4) years from 2008 up to 2011. To achieve the objective of the study, the firms were classified into two categories. The first category was made up of those firms which paid cash dividends regularly and group two was composed of those firms which paid cash dividends following irregular trends. The study investigated whether there was significant difference between accounting and market based financial performance between those two groups in relation to dividend policy. Further, an empirical analysis was undertaken using multiple regression and t-test as well as descriptive statistics to determine the outcome. The results of analysis showed that dividend payments had influence on companies' financial performance. Furthermore, the connection between dividend per share within groups and Tobin's q which is a market based performance indicator was direct and statistically significant. Whereas, there was a statistically insignificant relationship between accounting based performance indicators (ROA and ROE) and dividend per share.

Ehikioya (2015) investigated the impact of dividend policy on the value and performance of firms in developing economies. The sample of this study was drawn from 81 firms listed on the Nigeria Stock Exchange spanning 2001 to 2010. The study employed panel regression model to analyze the data. The findings revealed a significant positive impact of dividend payout on the performance of firms, measured as return on assets and return

on equity. The finding confirms the proposition that dividend policy is an important determinant of firm performance.

Onyinlola, et al (2014) shows a positive relationship between significant EPSt and DPS t-1 with the coefficient of 0.661, significant at 0.01 level (i.e. $p<0.05$); whereas EPSt has an insignificant negative correlation of -0.369. This is well confirmed by Spearman's rho correlation analysis that shows coefficient of 0.715 significant at 0.010 and -0.394 for EPSt / DPSt-1 and EPSt/INVt-1 relationship respectively. They conclude that significant relationship exists between the dividend payout and organizational performance of Nigerian brewery sub-sector.

Rashid and Rahman,(2008) found that there is positive but insignificant relationship between share price volatility and dividend yield for 104 non-financial firms listed in the Dhaka Stock exchange during the period of 1999 – 2006. Nazir, et al (2010) applied fixed effect and random effect models to test the role of corporate dividend policy in determining the volatility in the stock price for 73 firms listed in Karachi Stock Exchange (KSE-100) indexed. Contradict to Rashid and Rahman, (2008), the researcher found that the share price volatility is significantly influence dividend policy as measured by dividend payout ratio and dividend yield. The result of the empirical findings made by Zakaria, et al, 2012 also suggests there is a significant positive relationship between the dividend payout ratio of a firm and share price volatility. Uwuigbe, et al (2012) observed that firm performance has a significant impact on the dividend payout of listed firms in Nigeria. That is, an increase in the financial well-being of a firm tends to positively affect the dividend payout level of firms.

2.3. Theoretical Framework

To drive this study, the MM Irrelevance Theory, Signaling Theory of Dividends and Bird in Hand Theory were succinctly discussed. However, this study will be anchored on the bird in hand theory as it provides a more suitable theoretical explanation for the topic.

2.3.1 MM Irrelevance Theory

The dividend irrelevance theory posits that the dividend payout, pattern and their dynamism do not affect firm value. These theories aid decision on dividend payout ad patterns for the achievement of optimal results. These theories are often used to explain the relationship between dividend, performance and value of firms as previously used in the works. Modigliani and Miller (1961) in their ground breaking paper about dividend policy, growth and valuation of shares forwarded a proposition that dividend policy chosen by a firm is irrelevant in as far as valuation of the firm is concerned in an ideal economy characterized by perfect capital markets, rational behaviour and perfect certainty. They went further to state that firm value is rather determined by the quality of a firm's investment policy and the earning power of its assets.

MM assumed that capital markets are perfect whereby no buyers or sellers of securities is large enough to have a significant influence on ruling share prices; that investors are rational meaning that they always prefer stocks of higher returns and they are risk averse; and that there is perfect certainty hence there is complete assurance on the part of the investors as to future investment programs and profits of every corporation.

In this study the researcher is trying to establish whether MM"s theory holds in the Nairobi Securities Exchange situation especially considering that it was conceptualized in the western world where the economic fundamentals may be substantially different from the third world situation. It is largely expected that the local investor will in most cases be targeting regular cash flows from his investment in the security exchange rather than the eventual capital gains over medium to long term.

2.3.2 Signaling Theory of Dividends

Miller and Rock (1985) in their model overlooked the standard finance model which assumes that in a perfect capital market, both outside investors and inside managers have access to the same information about the firm's current earnings and future opportunities. They replaced this assumption with the real world occurrence whereby managers know more about the firm's earnings and investment opportunities more than outside investors.

In that case, the announcement of dividends conveys certain information which is not available to the public thus the model suggests a positive relationship between asymmetry of information and dividend policy. However, for this hypothesis to hold, managers should firstly possess private information about a firm's prospects, and have incentives to convey this information to the market. Secondly, a signal should be true; that is, a firm with poor future prospects should not be able to mimic and send false signals to the market by increasing dividend payments.

Lintner (1956) argued that firms tend to increase dividends when managers believe that earnings have permanently increased. This suggests that dividend increases imply long run

sustainable earnings. Lipson, et. *al* (1998) also observed that, "managers do not initiate dividends until they believe those dividends can be sustained by future earnings". Dividends are considered a credible signaling device, that influence market value, because of the dissipative costs involved hence the theory is relevant in this study.

2.3.3 Bird in the Hand Theory

Theory of A Bird in hand propounded by Linter (1957) and supported by Gordon (1963). Who argued that investors perceive a naira of dividends in the hand are relatively certain compare to future capital gain in the bush. However, the "Bird-in-hand" theory as argued by Gordon (1962). Bird-in-the hand theory on the other hand suggests that investors prefer cash in the Hand rather than a future promise of capital gains due to lower risks (Baker & Powell, 1999). The 'bird-in-hand' explanation argues that a relationship exists between firm value and dividend payout because dividends represent a sure thing for shareholders as compared to capital gains. Duke et al (2015) carried in their study of dividend policy on commercial banks in Nigeria opined that there is a positive significant relationship between dividend yield and share price. While Mukora (2014) stated that there is a significant positive relationship between dividend announcement and shares yield in the stock market of some selected firms. Robinson (2006) found different result in study about dividend policy among publicly listed firms in Barbados, according to him, most financial managers in Barbados seem to take a "bird in the hand" view of dividends and retain a strong commitment to paying dividends, and legal restrictions aside, do not vie share repurchases as an alternative to dividends, as a means of providing cash for investors. Hence, investors

would prefer the "bird-in hand" (cash dividends) to "two-in-the-bush" (future capital gains).

Although this hypothesis has been challenged by many researchers, yet it has received supports from studies conducted by Linter (1962), Walter (1963), Gordon (1963). Walter (1963) analyzed the influence of the dividend policy of a firm and the changes in value just like Miller & Modigliani. Walter concludes that we do live in a world with imperfections and those imperfections lead to differences in firm value, which contrasts with Miller & Modigliani's irrelevance theorem.

Lintner (1962) concluded that purely competitive markets, maximizing behaviour, absence of issue costs and taxes, and identical interest rates to personal and corporate debtors are not sufficient to make investors indifferent to substitutions between retained earnings and debt in financing fixed budgets. Investors will always have preference for dividends as a result of time value of money.

Gordon (1963) similarly presented an argument that a corporation's share price or its cost of capital is not independent of dividend policy. He went on to cross examine MM"s proposition and state its short comings. Gordon made two assumptions; that investors are risk averse and that uncertainty increases with increase of time into the future upon which dividends would be received. Consequently, the single discount rate an investor uses to value a share's dividend expectations is an increasing function of the rate of growth in the dividend hence dividend policy influences the value of a share and this theory is therefore relevant in the current study. MM however criticized the bird in hand theory and called it

a fallacy since most recipients of dividends would invest the funds in the same or different company.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

For the purpose of this study, an Ex-post facto (after-the-fact) research design was adopted. This design suggests that a research is conducted after the event has taken place and required data already in existence. The research was done after the event has taken place so the study also used the design to examine the effects of the various dividend policies adopted by firms over the years on the financial performance of quoted consumer goods companies in Nigeria.

3.2 Population, Sample and Sampling Techniques

The population of this study comprised of all the consumer goods companies (7up, Cubdury Nigeria Plc, Dangote Flour Mills, Dangote Sugar Refinery Plc, Flour Mills of Nigeria Plc, Nascon Plc, Nestle Nigeria Plc, Northan Nigeria Flour Mills, Vitafoam Nigeria Plc, PZ Nigeria Plc, Union Salt, Golden Guinea Breweries Plc, Guinness Nigeria, Honeywell Flour Mills, Nigeria Breweries Plc, International Breweries Plc, Unilever Nigeria Plc, Nigeria Enamelware Plc, Champion Breweries Plc) listed on the floors of the Nigeria Stock Exchange as at 2008 to 2017. However, all the companies with complete data were used for the purpose of data collection and analysis. The study has however adopted in ttoto all the companies as sample size for the study.

3.3 Methods of Data Collection

This study utilized secondary data. Data was obtained from the financial statements including statement of comprehensive income and statement of financial position from the individual company websites from 2008 to 2017. Data on dividend per share, Earnings per share, dividend payout and book value per share were used to calculate from the statement of account. The statements of comprehensive income and statements of financial position were obtained from the company website for the period of study.

3.3.1 Technique for Data Analysis and Model Specification

The data analysis involved Regression model. Data analysis was done using STATA Version 13 after diagnostic test of Variance Inflation Factor (VIF), Multicollinearity, Heteroscedasticity Test were done. The linear model is In line with prior studies (Kashif, 2011; Akani, and Sweneme 2016) that have analyzed the effect of dividend policy on performance of firms, the study adopted the models of Akani, and Sweneme (2016) NPM & ROI = f (DPR, RR, DY, EPS) and Khan, Nadeem, Islam Salman, and Gill, (2016)

Y = f (X), ROA = f (E), ROA = Dependent Variable (EPS, DPS, DPR, BVPS)

Independent Variables

$ROA = \alpha + \beta_1 DPSit + \beta_2 DPR\ it + \beta_3 EPS\ it + \beta_4 BVPS\ it + \varepsilon\ it$

Where: ROA= Return on Assets

EPS= Earnings per share

DPS= Dividends per share

DPR= Dividend payout ratio

Control variable

EPS= Earnings per share

BVPS= Book value per share

a = constant

ε = error term which represents the combined effect of omitted variables

β1 – β4 = Coefficient of determinants

Decision rule: From the findings of the study, if the independent variables (EPS, DPS, DPR, and BVPS.) affected dependent variable (return on assets) the null hypothesis will be rejected or otherwise accepted.

3.4 Justification of Methods

The choice of ex-post facto research design was based on the fact the study made use of data from events that have already taken place. The justification for sector was based on the paucity of studies in the sector and population was rationalized based on the number of companies currently in the sector. Regression analysis is normally used to examine the relationship and hence the study determined relationship between one dependent variable and multiple independent variables.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1.1Descriptive Statistics

Table 4.1: Descriptive Statistics on ROA, EPS, BVPS, DPS and DPR

VARIABLE	MEAN	MAX	MIN	SD
ROA	2.810884	4.956037	.0024558	7.532231
EPS	.0173188	.584867	-.0754186	.0587482
BVPS	.2648915	20.53903	.0020066	1.780715
DPS	.2599244	2.529224	0	.4859833
DPR	.0718867	.8765	0	.2154523

Source: Author's Computation, 2021 using STATA V13

Table 4.1 Presents descriptive statistics of the variable of the study (See appendix for list of companies). It describes the mean, maximum, minimum and standard deviation. The average mean of ROA recorded in the period covered by the study is 2.8108, the maximum reached is 4.956037 and the minimum was 0024558. Meanwhile, the standard deviation stood at 7.5322. The average EPS and BVPS within this period was 0.0173 and 0.26489 respectively while the maximum and minimum figure stood at 0.584867, 20.5393 and -0.0754 and 0.0020 respectively. The standard deviation for this variables is 0.5874 and 1.7807. Again, the average DPS and DPR stood at 0.2599 and 0.0718 with a corresponding standard deviation of 0.4859 and 0.2154 respectively. The result shows a minimum figure of 0 for both DPS and DPR while the maximum figure was 2.5292 and 0.8765 respectively.

4.1.2 Correlation Matrix

Table 4.2: Correlation Matrix

	ROA	EPS	BVPS	DPS	DPR	
ROA	1.0000					
EPS	0.1621	1.0000				
BVPS	-0.0490	0.0417	1.0000			
DPS	0.3279	0.1100	-0.0175	1.0000		
DPR	0.3992	-0.0391	-0.0013	0.2843	1.0000	

Source: result via STATA V13

Table 4.2 Present the correlation matrix looks at the relationship between and among the dependent and independent variables. This study the result of the correction matrix shows that Earnings per share, dividend per share, and dividend payout ratio has a positive relationship with return on assets while book value per share has a negative relation with return on assets. The respective cases indicate the significance of the relationship given by 1.0000.

4.1.3 Post Diagnostic Test

Test for Multicollinearity

Multicollinearity is a statistical situation where some independent variables in a multiple regression model are highly correlated. When multicollinearity occurs the correlated

predictors provide redundant information about the responses (Lauridsen & Mur, 2005). It is important to undertake a multicollinearity test to help reduce the variables that measure the same things (O'Brien, 2007). According to O'Brien (2007), the Variance Inflation Factor (VIF) measures the impact of collinearity among the variables in a regression model. Values of VIF that exceed 10 are often regarded as indicating multicollinearity problem.

Variance Inflation Factor Measure of Multicollinearity Test

Table 4.3: Variance Inflation Factor

Variable	VIF	1/VIF
DPS	1.11	0.903999
DPR	1.09	0.914136
EPS	1.02	0.980576
BVPS	1.00	0.997717
Mean VIF	1.06	

Source: Result via Stata V13

Table 4.3 above shows that VIF and tolerance value for all the variables had mean VIF of less than 10 and tolerance of higher than 0.05 it therefore implies that there was no multicollinearity among the independent variables.

Test for Heteroskedasticity

Heteroskedasticity means that the previous error terms influence other error terms and hence violating the statistical assumption that the error terms have a constant variance. But, Homoscedasticity suggests that the dependent variable has an equal level of variability for

each of the values of the independent variables (Garson, 2012). A test for homoscedasticity is made to test for variance in residuals in the regression model used. If there exists equal variance of the error terms, we have a normal distribution. Lack of an equal level of variability for each value of the independent variables is known as heteroscedasticity, the Breusch-Pagan test developed by Breusch and Pagan (1979) was used to test for homogeneity in a linear regression model. The rule is that if p-value is greater than 0.05, Ho is accepted and H1 is rejected, if the p-value is less than 0.05, Ho is rejected and H1 is accepted.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2(1) = 483.87

Prob > chi2 = 0.0000

There is a problem of hetroskedasticity when P-value is less than 5%, the chi square probability of the result for Breusch-Pagan / Cook-Weisberg test for heteroskedasticity. The Breusch-Pagan test is designed to detect any linear form of heteroskedasticity.

4.1.4 Regression Result

Hausman Specification Test

Table 4.4: Coefficients

	(b) F	(B) R	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
EPS	14.18721	19.69809	-5.510876	6.483756
BVPS	-.2067564	-.2154488	.0086924	.183156
DPS	3.036439	3.344401	-.3079614	.5733707
DPR	8.264335	11.98152	-3.717184	1.852106

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(4) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B)

= 5.73

Prob>chi2 = 0.2202

The result of the Hauseman Specification Test in the table 4.4 above, indicates that random effect is more appropriate to be used for analysis since the p-value is greater than 0.05.

Random Effect Result

Table 4.5: Random-effects GLS regression

	ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
EPS	19.69809	9.593681	2.05	0.040	.89482	38.50136
BVPS	-.2154488	.3131963	-0.69	0.492	-.8293022	.3984047
DPS	3.344401	1.235494	2.71	0.007	.9228778	5.765924
DPR	11.98152	2.706069	4.43	0.000	6.677721	17.28532
Cons	.8029435	.6632722	1.21	0.226	-.4970461	2.102933

Source: Authors computation using STATA 13

The result in the table 4.5 shows the result of the regression analysis. The result shows an r-square value of 23%, the remaining 77% could be explained by other variables not included in the model. The probability of F-statistics is 0.000 which is less than 0.05 test criteria which implies that the model is fit and is capable of explaining the relationship

between the dependent and independent variables. Based on the result as presented above, it indicates that in the absence of dividend policy, companies' performance will diminish to the tune 23%, however it will also be significant as indicated by the p-value of 0.000 which is less than 5%.

4.2 Test of Hypotheses

4.2.1 Hypothesis One

The first Hypothesis of the study stated that dividend per share has no significant effect on financial performance of quoted consumer goods companies in Nigeria. The result of the regression showed that dividend per share has a coefficient of 3.344401 and a p-value of 0.007. Since the p-value is less than 0.05 test criteria the study rejects the null hypothesis which states that dividend per share has no significant effect on financial performance of quoted consumer goods companies in Nigeria.

4.2.2 Hypothesis Two

The second Hypothesis of the study stated that dividend payout ratio has no significant effect on financial performance of quoted consumer goods companies in Nigeria. The result of the regression showed that dividend payout ratio has a coefficient of 11.98152 and a p-value of 0.000. Since the p-value is less than 0.05 test criteria the study rejects the null hypothesis which states that dividend payout ratio has no significant effect on financial performance of quoted consumer goods companies in Nigeria.

4.3 Discussion of Findings

The first objective of the study examines the effect of dividend per share on financial performance of quoted consumer goods companies in Nigeria. The hypothesis tested states that dividend pay share has no significant effect on financial performance of quoted consumer goods companies in Nigeria. The result with the aid of regression analysis revealed that dividend per share has a positive and significant effect on financial performance of companies in the area covered by the study. It therefore means that a change in dividend per share will result to a change in the financial performance of companies in the area covered by the study. This finding supports the MM Irrelevance theory and signaling theory and is consistent with the findings of Uwuigbe (2013) and Kajola et al (2015).

The second objective of the study assesses the effect of dividend payout ratio on financial performance of quoted consumer goods companies in Nigeria. The hypothesis tested states that dividend payout ratio has no significant effect on financial performance of quoted consumer goods companies in Nigeria. The regression result revealed that dividend payout ratio has a positive and significant effect on financial performance of companies in the area covered by the study. It therefore means that a change in dividend per share will result to a change in the financial performance of companies in the area covered by the study. This finding supports the MM Irrelevance theory and signaling theory and is consistent with the findings of Uwuigbe (2013) and Kajola et al (2015), Monoghe and Ibrahim (2015).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONs

5.1 Summary

Dividend Policy in corporate finance is a decision made by the directors of a company about the amount and timing of any cash payment made to the company`s shareholders. The determination of the amount of dividends payable is an important decision that companies undertake since this to a large extent depend on the financial performance of the company. Given that, the nature of association between financial performance and dividend policy of firms has faced unresolved debate by researchers for a substantial period of time, the objective of the study was to investigate the effect of dividend policy on financial performance of consumer goods firms listed on the Nigerian Stock Exchange. The variables considered were dividend per share, dividend payout ratio, earnings per share and book value per share. In doing so, the study could contribute immensely to the existing literature in the area of corporate finance in the Nigerian context. The study aligned with the MM irrelevance theory and Signaling Theory.

An ex post facto research design was adopted for the study. Meanwhile, the population of this study comprised of all the twenty-one consumer goods companies listed on the floors of the Nigeria Stock Exchange as at 2008 to 2017. The study has however adopted in totality all the companies as sample size for the study. Secondary sources of data were obtained from companies' published annual financial statement for the period covered by the study. The study employed the use of panel regression to analyses the data and results

revealed that dividend per share, dividend payout ratio and earnings per share have positive significant effect on financial performance while book value per share has a negative insignificant effect on financial performance.

5.2 Conclusion

Based on the results obtained in chapter four (4), the study concludes that

Dividend per share has a positive and significant effect on financial performance of companies in the area covered by the study. This implies that any change in dividend per share, there will be change in the financial performance of companies under study.

Dividend payout ratio has a positive and significant effect on financial performance of companies in the area covered by the study. This indicates that when there is increase in dividend payout ratio there will be increase in financial performance of companies under study.

5.3 Recommendations

Based on the findings of this research study, the study recommended the followings:

1. The management of the sampled companies should improve in their dividend per share to attract investment from investors. Because the study found that dividend per share positively affect financial performance of companies. The result of the findings revealed that dividend per share has a positive and significant effect on financial performance of companies in the area covered by the study. It therefore

means that a change in dividend per share will result to a change in the financial performance of companies.

2. The management of the companies under study should ensure that they have a good and robust dividend payout ratio policy in place that can enhance their level of financial performance and also attract investments from investors, because this study found dividend payout ratio positively affect financial performance of companies under study.

5.4 Limitation of the Study

Some of the limitation of these study are

1. One of the weakness this study is that, it focused on consumers' goods companies neglecting other sectors in the nonfinancial subsectors.
2. Although, there exit many dividend policy proxies, the current study only considered a few.
3. The current study measured financial performance using only return on assets (ROA) and this is consider a limitation because there are several other measurement.

5.5 Suggestions for Further Studies

1. It is suggested that other studies can consider a wider scope such as studying the entire nonfinancial sectors.

2. It is suggested that other subsequent studies should employ more variables in a bin to have a more robust finding.

3. Also future endeavors can consider proxies such as ROE, ROCE, in order to make comparison.

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APPENDIX

Firms	EPS	BVP	DPS	DPR	ROA
7 up	0.006179	0.12975	0.132812	0.000589	0.093331
7 up	0.005876	0.285269	0.900865	0.000589	0.019151
7 up	0.005382	0.265078	0.391716	0.000284	0.021058
7 up	0.009928	0.268081	0	0	0.058261
7 up	0.006553	0.040253	0	0	0.034609
7 up	0.004458	0.019632	0	0	0.055597
7 up	0.010043	0.029618	0.018881	0	0.115175
7 up	0.001815	0.037451	0.001731	0	0.017182
7 up	0.00265	0.038676	0	0	0.025046
7up	0.001681	0.041798	0.003331	0	0.081437
Cubdury					
Cubdury					
Cubdury					
Cubdury	0.010598	0.178334	0	0	0.049263
Cubdury	0.012803	0.128092	2.209592	0.001103	0.04988
Cubdury	0.0385	0.13644	2.209592	0.001103	0.139512
Cubdury	0.012011	0.142832	0.149915	0.001103	0.065198
Cubdury	0.00737	0.125629	0.12846	0.000111	0.040574
Cubdury	0.006758	0.136483	0	0	0.036383
Cubdury	0.061253	0.121502	0	0	0.309426
Dangote Flour Mills	0.006816	0.092628	0	0	0.049922
Dangote Flour Mills	0.02212	0.099588	0	0	0.196099
Dangote Flour Mills	0.015012	0.106996	0.542572	0.000145	0.115374
Dangote Flour Mills	0.015012	0.105956	0.937848	0.00025	0.113917
Dangote Flour Mills	0.026932	0.101728	0	0	0.11375
Dangote Flour Mills	0.003858	0.066495	0	0	0.020719
Dangote Flour Mills	0.029917	0.086105	0	0	0.40833
Dangote Flour Mills	0.005184	0.167434	0.730444	0.000439	0.025351
Dangote Flour Mills	0.030907	0.144305	1.425805	0.000144	0.148631
Dangote Flour Mills	0.021891		1.723178	0.000197	0.129769
Dangote Suger Plc			0		
Dangote Suger Plc			0		
Dangote Suger Plc	0.006425	0.860859	0	0	0.069556
Dangote Suger Plc	0.006581	0.065144	0	0	0.091609
Dangote Suger Plc	0.001798	0.077106	0.057423	0	0.016786
Dangote Suger Plc	0.001807	0.06872	0.127563	0.000118	0.013035
Dangote Suger Plc	0.003435	0.068252	0	0	0.022209
Dangote Suger Plc	0.010904	0.068775	0	0	0.06639

Dangote Suger Plc	0.002398	0.055758	1.275634	0.000886	0.080666
Dangote Suger Plc	0.004418	0.057778	1.076055	0.000406	0.140936
Flour Mills Of Nig Plc					
Flour Mills Of Nig Plc					
Flour Mills Of Nig Plc					
Flour Mills Of Nig Plc	0.006515	0.025485	0	0	0.396596
Flour Mills Of Nig Plc	0.005912	0.030291	0	0	0.333706
Flour Mills Of Nig Plc	0.005885	0.031495	0	0	0.275692
Flour Mills Of Nig Plc	0.004088	0.031222	0	0	0.180561
Flour Mills Of Nig Plc	0.006455	0.024479	0	0	0.247171
Flour Mills Of Nig Plc	0.001098	0.026331	0.263322	0.000183	0.041756
Flour Mills Of Nig Plc	0.002313	0.006402	0.498718	0.000164	0.031812
NASCON	0.000989	0.006098	0	0	0.534596
NASCON	0.001404	0.006098	0	0	0.753066
NASCON	0.002784	0.007927	0	0	0.64336
NASCON	0.001642	0.008459	0.179631	0	0.059992
NASCON	0.001679	0.007885	0.203136	0	0.258771
NASCON	0.001639	0.01439	0	0	0.236112
NASCON	0.001134	0.015791	0	0	0.148706
NASCON	0.001278	0.014316	0.277342	0.000132	0.129189
NASCON	0.002098	0.020446	0.336563	0.000132	0.195619
NASCON	0.002758	0.020446	0.277344	0.000132	0.232331
Nestle Nig Plc	0.002093	0.008447	1.114821	0.000134	0.184508
Nestle Nig Plc	0.002454	0.008447	1.14574	0.000117	0.145103
Nestle Nig Plc	0.002502	0.008447	0	0	0.140029
Nestle Nig Plc	0.000421	0.008447	0	0	0.021834
Nestle Nig Plc	0.00053	0.008447	0	0	0.023751
Nestle Nig Plc	0.000558	0.008447	0	0	0.205638
Nestle Nig Plc	0.000558	0.008447	0.058837	0	0.209598
Nestle Nig Plc	0.000595	0.008447	0.867052	0.000365	0.19906
Nestle Nig Plc	0.001988	0.008447	0	0	0.467272
Nestle Nig Plc	0.002054	0.002007	0	0	0.463835
Northan Nig Flour Mill					
Northan Nig Flour Mill					
Northan Nig Flour Mill					
Northan Nig Flour Mill	0.006113	0.027289	0	0	0.40148
Northan Nig Flour Mill	0.001764	0.027289	0	0	0.064617
Northan Nig Flour Mill	0.001824	0.033595	0.035107	0.8765	0.062124
Northan Nig Flour Mill	0.001892	0.032415	0.033406	0.8765	0.071494
Northan Nig Flour Mill	0.006345	0.072662	0	0	0.187289
Northan Nig Flour Mill	0.001215	0.019862	0.075979	0	0.049782

Northan Nig Flour Mill	0.00095	0.02067	0	0	0.019584
Vitafoam	0.001705	0.004628	0	0	0.216101
Vitafoam	0.00129	0.004829	0.165212	0	0.141833
Vitafoam	0.001408	0.005213	0.164967	0	0.139846
Vitafoam	0.001443	0.005484	0	0	0.13669
Vitafoam	0.001441	0.005124	0	0	0.120522
Vitafoam	0.001263	0.005212	0	0	0.418744
Vitafoam	0.001609	0.002685	0	0	0.554863
Vitafoam	0.001871	0.002743	0.219438	0	0.49663
Vitafoam	0.00195	0.02963	0.211574	0	0.372488
Vitafoam	0.001932	0.004828	0.214013	0	0.281661
PZ	0.000937	0.010289	0	0	0.12075
PZ	0.00063	0.010946	0.10884	0.7654	0.054757
PZ	0.000836	0.011587	0.119301	0.7654	0.068462
PZ	0.00087	0.01231	0	0	0.056809
PZ	0.014001	0.013904	0	0	0.558626
PZ	-0.00094	0.013389	0	0	-0.03881
PZ	-0.001	0.014603	0	0	-0.03842
PZ	0.002736	0.015842	0	0	0.088563
PZ	0.002904	0.016346	0.245601	0	0.081481
PZ	0.003015	0.017409	0.324505	0	0.077199
UNION SALT	0.017487	0.072679	0.562274	0	1.543458
UNION SALT	-0.00846	0.081141	0	0	-0.81248
UNION SALT	-0.00085	0.009361	0	0	-0.05478
UNION SALT	0.001518	0.009191	0	0	0.056658
UNION SALT	0.002019	0.010127	0.201913	0.775	0.060632
UNION SALT	-0.07542	0.01025	0.287991	0.775	-2.25222
UNION SALT	-0.00227	0.010069	0.584469	0.775	-0.05776
UNION SALT	0.012104	0.008506	0.633291	0.775	0.02092
UNION SALT	0.009845	0.011047	2.529224	0.775	0.165216
UNION SALT	0.012836	0.01203	2.529222	0.775	0.019788
GUINESS	-0.00399	0.026971	0.405581	0.775	-0.11046
GUINESS	-0.00383	0.023065	0.405581	0	-0.12245
GUINESS	0.001102	0.030999	0.445046	0	0.032314
GUINESS	0.001439	0.036962	0.462886	0.000258	0.04034
GUINESS	0.011412	0.036688	0.45593	0	1.162795
GUINESS	0.009524	0.035584	0.445045	0	0.943905
GUINESS	0.007686	0.036177	0.536214	0	0.793452
GUINESS	0.010351	0.018194	0.459089	0	0.637598
GUINESS	-0.02677	0.018194	0.459089	0	-1.47149
GUINESS	0.101511	0.01902	0.459089	0	4.956037
Nigerian Breweries Plc	0.05753	0.028866	0.636464	0	1.769911
Nigerian Breweries Plc	0.057053	0.024344	0	0	1.638917

Nigerian Breweries Plc	0.070704	0.020248	0	0	1.798979
Nigerian Breweries Plc	-0.03378	0.02089	0	0	-0.82145
Nigerian Breweries Plc	-0.03237	0.032939	0	0.123467	-0.65603
Nigerian Breweries Plc	0.057052	0.034806	0	0.123467	0.985058
Nigerian Breweries Plc	0.044551	0.032853	0.189025	0.123467	0.84779
Nigerian Breweries Plc	0.059199	0.034384	0.206037	0.123467	0.943323
Nigerian Breweries Plc	0.043872	0.032149	0	0.123467	0.694895
Nigerian Breweries Plc		0.017202	0.120796		
INTERNATIONAL BREWERIES PLC					
INTERNATIONAL BREWERIES PLC					
INTERNATIONAL BREWERIES PLC					
INTERNATIONAL BREWERIES PLC	0.005487	5.511187	0.75716	0.456784	0.200224
INTERNATIONAL BREWERIES PLC	-0.0369	3.466878	0.027059	0.000302	-1.17952
INTERNATIONAL BREWERIES PLC	0.054881	20.53903	0.05136	0.000302	1.088036
INTERNATIONAL BREWERIES PLC	0.004697	0.025084	0.270322	0.000302	0.067949
INTERNATIONAL BREWERIES PLC	0.004261	0.026643	0.027033	0.000302	0.064499
INTERNATIONAL BREWERIES PLC	0.005807	0.030648	0.048929	0.000302	0.079207
INTERNATIONAL BREWERIES PLC	0.105145	0.025427	0.028595	0.000302	1.19592
ENAMELWARE	0.014675	0.026968	0.05403	0.000302	0.26156
ENAMELWARE	0.004432	0.027229	0.0277	0	0.141862
ENAMELWARE	0.004788	0.129915	0.027702	0	0.119285
ENAMELWARE	0.007044	0.121553	0.025155	0	0.161958
ENAMELWARE	0.006563	0.113178	0	0	0.15341
ENAMELWARE	0.008943	0.104398	0	0	0.172571
ENAMELWARE	0.015103	0.026039	0	0	0.147294
ENAMELWARE	0.019378	0.02965	0	0	0.279553
ENAMELWARE	0.020392	0.024681	0	0	0.270771
ENAMELWARE	0.002413	0.020396	0	0	0.027496
Champion Breweries Plc	0.016938	0.963163	0	0	0.051753
Champion Breweries Plc	0.022217	0.115624	0	0	0.069473
Champion Breweries Plc	0.024582	0.142	0	0	0.081509
Champion Breweries Plc	0.024876	0.169432	0.979926	0.034567	0.072528
Champion Breweries Plc	0.093502	0.044791	0.988745	0.468	0.12912
Champion Breweries Plc	0.584867	0.042098	0.956979	0.126889	0.79062
Champion Breweries Plc	0.050718	0.042106	0	0	0.072963
Champion Breweries Plc	0.02707	0.028081	0	0	0.063801

Champion Breweries Plc	0.216598	0.290756	0	0	0.50295
Champion Breweries Plc	0.258981	0.292463	0	0	0.595407

APPENDIX

. regress ROAA EPS BVP DPS DPR

```
      Source |       SS       df       MS              Number of obs =     143
-------------+------------------------------           F(  4,   138) =   10.58
       Model |  1891.01713     4  472.754283            Prob > F      =  0.0000
    Residual |  6165.28305   138  44.6759641           R-squared     =  0.2347
-------------+------------------------------           Adj R-squared =  0.2125
       Total |  8056.30018   142  56.7345083           Root MSE      =   6.684

------------------------------------------------------------------------------
        ROAA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         EPS |   19.69809   9.593681     2.05   0.042     .7284698    38.66771
         BVP |  -.2154488   .3131963    -0.69   0.493    -.8347329    .4038354
         DPS |   3.344401   1.235494     2.71   0.008     .9014549    5.787346
         DPR |   11.98152   2.706069     4.43   0.000     6.630799    17.33224
       _cons |   .8029435   .6632722     1.21   0.228     -.508547    2.114434
------------------------------------------------------------------------------
```

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROAA

chi2(1) = 483.87

Prob > chi2 = 0.0000

. estat vif

Variable	VIF	1/VIF
DPS	1.11	0.903999
DPR	1.09	0.914136
EPS	1.02	0.980576
BVP	1.00	0.997717
Mean VIF	1.06	

. xtreg ROAA EPS BVP DPS DPR, fe

Fixed-effects (within) regression Number of obs = 143

Group variable: cross Number of groups = 16

R-sq: within = 0.1245 Obs per group: min = 7

between = 0.7180 avg = 8.9

overall = 0.2326 max = 10

F(4,123) = 4.37

corr(u_i, Xb) = 0.3602 Prob > F = 0.0024

ROAA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
EPS	14.18721	11.5792	1.23	0.223	-8.733097	37.10752
BVP	-.2067564	.3628196	-0.57	0.570	-.9249355	.5114227
DPS	3.036439	1.362057	2.23	0.028	.3403317	5.732547

```
       DPR |   8.264335   3.279193     2.52   0.013     1.773373    14.7553
     _cons |   1.246409   .6951347     1.79   0.075    -.1295671    2.622386
-------------+----------------------------------------------------------------
   sigma_u |  2.338377
   sigma_e |  6.6888435
       rho |  .10890571   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(15, 123) =     0.99                 Prob > F = 0.4733

. estimates store F

. xtreg ROAA EPS BVP DPS DPR, re

Random-effects GLS regression                   Number of obs      =       143
Group variable: cross                           Number of groups   =        16

R-sq:  within  = 0.1232                         Obs per group: min =         7
       between = 0.7305                                        avg =       8.9
       overall = 0.2347                                        max =        10

                                                Wald chi2(4)       =     42.33
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
       ROAA |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EPS |   19.69809   9.593681     2.05   0.040      .89482    38.50136
        BVP |  -.2154488   .3131963    -0.69   0.492    -.8293022    .3984047
        DPS |   3.344401   1.235494     2.71   0.007     .9228778    5.765924
```

```
      DPR |  11.98152   2.706069     4.43   0.000     6.677721    17.28532
    _cons |  .8029435   .6632722     1.21   0.226    -.4970461    2.102933
------------+----------------------------------------------------------------
  sigma_u |         0
  sigma_e |  6.6888435
      rho |         0   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

. estimates store R

V . hausman F R

```
                ---- Coefficients ----
             |      (b)          (B)          (b-B)     sqrt(diag(V_b-V_B))
             |        F            R       Difference          S.E.
-------------+----------------------------------------------------------------
         EPS |   14.18721    19.69809    -5.510876     6.483756
         BVP |  -.2067564   -.2154488     .0086924      .183156
         DPS |   3.036439    3.344401    -.3079614     .5733707
         DPR |   8.264335    11.98152    -3.717184     1.852106
------------------------------------------------------------------------------
                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(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                        =        5.73
              Prob>chi2 =      0.2202
```

bstat ROAA EPS BVP DPS DPR, statistics(mean max min sd) columns(statistics)

variable	mean	max	min	sd
ROAA	2.810884	4.956037	.0024558	7.532231
EPS	.0173188	.584867	-.0754186	.0587482
BVP	.2648915	20.53903	.0020066	1.780715
DPS	.2599244	2.529224	0	.4859833
DPR	.0718867	.8765	0	.2154523

	ROAA	EPS	BVP	DPS	DPR
ROAA	1.0000				
EPS	0.1621	1.0000			
BVP	-0.0490	0.0417	1.0000		
DPS	0.3279	0.1100	-0.0175	1.0000	
DPR	0.3992	-0.0391	-0.0013	0.2843	1.0000