

**EFFECT OF FIRM ATTRIBUTES ON DIVIDEND POLICY OF LISTED FOOD AND
BEVERAGES FIRMS IN NIGERIA**

BY

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M.Sc/ADMIN/6833/2010-2011**

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

**DEPARTMENT OF ACCOUNTING,
FACULTY OF ADMINISTRATION,
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ZARIA, NIGERIA**

NOVEMBER, 2015

DECLARATION

I declare that this dissertation entitled “EFFECT OF FIRM ATTRIBUTES ON DIVIDEND POLICY OF LISTED FOOD AND BEVERAGES FIRMS IN NIGERIA” is a product of my research effort, carried out under the supervision of Dr. Luka Mailafia and Aisha Nuhu Mohammed of the Department of Accounting, Ahmadu Bello University Zaria. The information gathered from literatures has been duly acknowledged in the text and a list of references provided. No part of this dissertation was presented elsewhere for award of any certificate. I take the sole responsibility of all errors therein.

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CERTIFICATION

This is to certify that the dissertation titled “EFFECT OF FIRM ATTRIBUTES ON DIVIDEND POLICY OF LISTED FOOD AND BEVERAGES FIRMS IN NIGERIA” by Nkiruka Mercy IHEONYE (M.sc/ADMIN/6833/2010-2011) meets the regulations governing the award of the degree of Masters of Science (M.sc) Accounting and Finance in Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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Dedication

This work is dedicated to God Almighty, the originator of my very existence, my hope and strong refuge, to whom my family and I resort to continually. You inspired, motivated and stood by me all through. I am forever grateful to You for your immeasurable grace in the course of this work.

Acknowledgement

Attaining the present state of this research has been made possible by the sincere commitment and help of many people some of whom are acknowledged here. As at all times, Almighty God from whom springs forth perpetual affection, limitless inspiration and wisdom comes first.

I sincerely acknowledge the enormous contributions of my supervisors. Dr. Luka Mailafia (a man of patience and dignity) has mentored and supervised this work professionally. I also remain ever indebted to Aisha Nuhu Mohammed for her humane considerations and expertise that brought this work to its present state. She is always there to listen and make corrections where necessary even with her tight schedules. Their invaluable contributions are highly cherished.

My gratitude also goes to my able coordinator Dr. Salisu Abubakar (a man of principle), I learnt a lot from him in the course of this work. He made me understand that no matter how difficult and time demanding a particular task is, someone has been confronted with such a task and was able to overcome. I remain loyal sir. My earnest gratitude goes to my lecturers: Dr. A.B. Dogarawa who is presently the Head of the Department, Dr. A. Bello, and Dr. S.U. Hassan whose immeasurable participation aided in bringing this research to light.

I must not fail to express my profound gratitude to my beloved husband Dr. Henry Iheonye, for his relentless effort towards the actualization of our dream. He has stood by me all through. Enrolling into this programme would not have been possible if not for him. He made me look beyond the likely interference of my other commitments with the programme to accepting it as an achievable task. He rendered all the support I needed from him academically, financially, emotionally and other wise. And to my kids for their little prayers that yielded results.

I am forever thankful to my parents Mr. I. Okoye, and Mrs F. Okoye for their affectionate determination that saw me through to this point. They laid the foundation upon which my ego is boosted, and have never given up on my academic pursuits up to date. Their fervent prayers have seen me through in the course of this work. May Almighty God grant them more joyful years here on earth and life everlasting at the end of this life in Jesus name, Amen.

Finally, I must not fail to extend my deepest gratitude to my lovely sister, friend and classmate Cynthia Akpaka who proved her sincere love towards me in the struggle of making this research work a reality. She gave me a listening ear whenever I called, and is always around in time of need. Her words of encouragement, advice, and suggestions have made a wonderful input to this work. May Almighty God do for her what no man can do for her. The relentless efforts of my other friends and classmates; Mr. Usman Audu Dinde, Mal. Abubakar Ahmed and Mr Adejo, are also appreciated.

Abstract

Depending on the policy adopted by a firm, its earnings can either be fully retained for future investments, partly retained while the remainder is paid out as dividends to shareholders, or completely paid out as dividend to shareholders. The purpose of this study is to empirically investigate the effect of firm attributes on the dividend payout decisions in Nigerian listed food and beverages firms for the period 2004 to 2011 .The study considered firms with both negative earnings and zero dividend history which were not considered by other studies. The study utilized correlational research design and data on Dividend per Share (DPS), Profitability (PROF), Leverage (LEVR), Firm Size (FSZ), Firm Growth (FGR), Cash Flow (CAFL), corporate tax (CTAX), Asset Tangibility (AST), and Firm Age (FAGE) were obtained from published annual reports of sampled firms. Employing fixed effect Robust regression analyses, the study found that age significantly impact on the dividend policy of firms while cash flow, firm size, profitability, firm growth, leverage, corporate tax and asset tangibility, do not have significant impact on the dividend policy of firms. The study concluded that age is a significant determinant of dividend policy and further recommended that investors should invest with mature firms as age has bearing on firms' dividend decisions.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Dividend policy is one of the crucial decisions in corporate finance. The goal and objective of firms have advanced from profit maximization to wealth maximization towards ensuring the survival of the business in the long run and at the same time protecting shareholders' interest. This has made dividend policy an essential issue in the affairs of firms like Nigerian food and beverage firms.

Food and beverages firms as the name implies are firms that process, package, and market food and beverages as consumer goods. Nigeria has virtually over one hundred (100) food and beverages firms out of which thirteen (13) are listed on the Nigerian stock Exchange. These firms have contributed a lot towards the development of the country through payment of taxes and carrying out their obligations on social responsibility amongst others. Over the years, food and beverage firms have recorded enormous growth that attracted the interest of policy makers as well as researchers to the sub sector, and also compared to other manufacturing firms, food and beverages firms are more consistent in their records of dividend payments. Their annual reports are readily available to both investors and researchers for assessment.

Dividends are payments made to shareholders of a company by the company, out of the profits made by the or distributable reserves. The payments can be made in the form of cash, stocks, stock splits and special distributions like extra dividend, spin-offs and split-offs. The questions then become, what portion of profits made should be retained, and what portion should be distributed as dividends? Secondly what are the factors that trigger dividend payment?

Watson and Head (2004) state that Dividend Policy involves the decision that considers the amount of profits to be retained by the company and that to be distributed to the shareholders of the company. The shareholders are the owners of the business and the managers are their agents who are faced with the responsibility of managing the day to day activities of the firm. The managers therefore, are intensely involved in originating the dividend policy of the firm since the way the firm is managed contributes to the profitability of the firm (Kapoor 2009). There is no certainty that every investment will be profitable. While some investments yield up to 50% profit, others could amount to loss. Profitability therefore, determines the dividend policy of firms.

Firms' earnings can either be negative or positive. When a firm makes profits, positive earnings are said to have been made. This can be divided by the number of shares owned by the firm as earnings per share whereas, loss made are split over the number of shares as loss per share. Positive earnings are good indicator of dividend payment. According to Al-Malkawi (2007), it is logical to consider profitability as a threshold factor, and the level of profitability as one of the most important factors that may influence firms' dividend decisions. Profitability has an upper hand in determining the dividend policy of firms since dividends are primarily paid to shareholders from profits made by the company.

According to Ajanthan (2013), resolving the decision on the amount of earnings to be retained by management and the amount to be distributed as dividend to shareholders is very essential in the maximization of shareholders' wealth and a very sensitive task. This is because both firm's need for funds and shareholders' need for income should be put into consideration, thereby striking a balance between both so that none would be neglected while trying to satisfy the other. Therefore, in order not to put so much stress on firms' internally generated funds, there is need

for leverage, so as to be able to satisfy both firms need for fund and shareholders need for current dividend evenly. Leverage suggests the debt amount employed in the capital structure of firms. Ogbulu and Arewa (2010) state that the most controversial issues in the behaviour of firms in relation to their owners and other stakeholders are the dividend payout ratio and the proportion of debt that is permissible in a firm's capital structure, which is the debt to asset ratio.

Asset tangibility no doubt, plays a prominent role in enhancing firms' external funding. Firms which have a greater portion of their assets in the form of tangible assets enhance their ability to raise debt finance and at a cheaper cost, thereby reducing the pressure on internally generated fund (Marfo-Yiadom and Agyei 2011). Firms with higher ratio of their fixed assets to their total assets are likely to pay dividends because they can easily acquire debt and at a lower cost which they can use to cover up in times of financial deficit.

As mentioned earlier, management's primary goal is shareholder's wealth maximization, which translates into maximizing the value of the company as measured by the price of the company's common stock (Kapoor, 2009). When the price of a company's common stock is maximized, it sends a good signal to investors to invest in such company, and a company's share price can be maximized through payment of dividends because most investors believe that dividend can only be paid to shareholders by healthy companies. Also, when the market value of a firm's assets is greater than the book value, it is an indication of firm growth.

Wealth can never be generated or maximized without first acquiring both fixed and current assets. The total assets of the firm reflect the size of the firm (Al-Shabibi and Ramesh, 2011): Imran, 2011)). The bigger the total assets owned by a firm, the bigger the firm size. Bigger firms are more or less mature firms that have easy access to the capital market and therefore, find it

easier to obtain funds at a cheaper cost and with less restriction. Consequently, they have the capability to pay higher dividends unlike smaller firms that do not enjoy such concession and therefore may not be able to pay high dividends.

Dividend payment depends more on cash flow, which reflects the company's ability to pay dividend (Gill, Biger and Tibrewala, 2010). Firms with sound cash flow are likely to pay higher dividends since dividends are paid in cash. However, a firm's cash flow may be sound, yet, reporting loss at the same time. Growing firms have ample investment opportunities to finance and as a result may not have enough idle cash to pay out as dividends, while established firms with less investment opportunities to finance have a sound cash flow position and therefore can afford high dividend payment. Low dividend payout policy may not be favourable to some of the shareholders, just like some shareholders may prefer the low dividend payout to the high dividend payout since all have their individual needs and goals and this is why it is needful to strike a balance between managements' need and that of shareholders.

Masulis and Trueman (1988) opine that taxes have glaring effect on the dividend policy of firms. Similarly, Nnadi and Akpomi (2008) state that for profit making organizations, once profits are made by a company as part of the company's corporate responsibility, the company is indebted to pay its corporate tax to the government. Corporate tax affects corporate dividend policy of organizations since the profit taxed is the primary source for settling dividend payment. According to Nnadi and Akpomi (2008), corporate tax reduces the profits available at the disposal of the organization, either to be retained or distributed as dividends to the shareholders of the company.

Nnadi, Wogboromma and Kabel (2013) theorized that age and growth significantly affect the dividend payment decisions of firms. As firms advance in age, they gain maturity and their growth and investment opportunities drop leading to a decline in their capital expenditures. This decline in their capital expenditure leaves them with sound cash flow that enables them to pay dividends.

1.2 Statement of the Problem

Dividend policy is one of the core topics in corporate finance that still maintains its prominent position due to the unresolved controversies surrounding it. Kapoor, (2009), identified that the area of corporate dividend policy has attracted the attention of management scholars and economists culminating into theoretical modeling and empirical examination. According to Gill, Biger, and Tibrewala (2010) deciding whether to pay, or not to pay dividends, and what percentage of earnings to pay out as dividends, are among the most essential policy choices challenging financial managers and management personnel.

Litner, (1956) opined that dividend depends on firm's current earnings and previous year's dividend while Miller and Modigliani, (1961) argued that dividend policy under perfect capital market does not affect the firm's value, and is therefore, irrelevant to the firm's value. If dividends are irrelevant, why do companies still pay dividends and why are investors aware and eager to receive dividends.

Kang (2004), specified that firms in different countries may follow different dividend policies because of differences in macro-economic environment, economic development, market regulations, tax systems, market transaction costs and other institutional factors. His assertion implies that firms in the same countries are likely to follow the same dividend policy. However,

firms in the same country and in different sectors may not follow the same dividend policy since they operate differently.

Al-Deehani (2003), states that some of the questions on dividend policy that still remain unanswered include: Does dividend policy affect value? What are the factors that determine dividend policy? Is dividend policy determined dependently or independently? These yet unanswered questions confirmed the words of Black, (1976:5), that “the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just do not fit together”.

Most of the empirical studies that have been conducted in corporate dividend policy focused on a set of selected determinants either to explain particular observed dividend behaviour or to examine a specific theory of dividend policy. However, none of the previous empirical studies could comprehensively explain corporate dividend policy because, the joint impact of the different factors that affect the payment of dividends has not been considered to date (Kang 2009).

The number of factors studied by Nigerian finance researchers as determinants of dividend policy has dramatically increased over time. But most of the studies conducted so far, studied very few different factors, making it difficult to comprehend the joint impact of the different factors on dividend decisions of firms. For instance, Adelegan (2003), examined the impact of three variables (growth prospect, leverage, and firm size) on dividend policy of firms in Nigeria; Nnadi and Akpomi (2008) examined the effect of one variable (tax) on dividend policy of Nigerian banks; and Ogbulu and Arewa (2010) investigated the impact of four variable (leverage, earnings per share, retention per share and size of the firm) on the dividend policy of firms in Nigeria. This study examines as many as eight financial variables, increasing the number

of variables studied by other researchers and also to be able to get the joint impact of all the variables on dividend policy instead of studying them separately,

For over a decade, Food and beverages is one of the sectors listed on Nigerian Stock Exchange with the least number of delisted firms. They have also recorded enormous growth over the years compared to other manufacturing sub-sector which reflects their efficiency and effectiveness in carrying out their business activities and the likelihood of dividend payment. Yet, only few Nigerian studies on dividend policy have been carried out on this domain. This study therefore, deemed it adventurous adopting food and beverages firms as the domain of the study with the aim of achieving a more reliable result.

Some earlier studies did not recognize firms with record of negative earnings and zero dividend like Adelegan, (2003), Musa, (2009). But this study considers firms with both negative earnings and zero dividend since it has been established by Nnadi and Akpomi (2008), Pandey (2005) that some firms adopt zero dividend policy for the period when that is convenient for them after which they can switch over to other dividend decisions depending on their assessment of which is favourable for them at a particular period. Deshmukh (2003) emphasizes that the omission of non-dividend paying firms results in a selection bias problem. Also, firms with records of negative earnings are considered in order to capture the dividend behaviour of firms in time of loss, as profitability reveals whether profit is made or not.

1.3 Research Questions

The following questions are designed to guide the study:

- i. How does Cash Flow impact on the dividend policy of listed food and beverages firms in Nigeria?

- ii. To what extent does Firm Size affect the dividend policy of listed food and beverages firms in Nigeria?
- iii. What influence does profitability exert on the dividend policy of listed food and beverages firms in Nigeria?
- iv. How does Firm Growth affect the dividend policy of listed food and beverages firms in Nigeria?
- v. To what extent does Leverage affect the dividend policy of listed food and beverages firms in Nigeria?
- vi. What influence does corporate tax have on the dividend policy of listed food and beverages firms in Nigeria?
- vii. What is the impact of Firm age on the dividend policy of listed food and beverages firms in Nigeria?
- viii. To what extent does Asset Tangibility affect the dividend policy of listed food and beverage firms in Nigeria?

1.4 Objectives of the study

The main objective of this study is to evaluate the factors that affect the dividend Policy of listed food and Beverages firms in Nigeria. More specifically, the study seeks to achieve the following objectives:

- i. Investigate the impact of Cash Flow on the dividend policy of listed food and beverages firms in Nigeria;
- ii. Assess the effect of Firm Size on the dividend policy of listed food and beverages firms in Nigeria;

- iii. Examine the influence of Profitability on the dividend policy of listed food and beverages firms in Nigeria;
- iv. Evaluate the effect of Firm Growth on the dividend policy of listed food and beverages firms in Nigeria;
- v. Assess the impact of Leverage on the dividend policy of listed food and beverages firms in Nigeria;
- vi. Examine the effect of Corporate Tax on the dividend policy of listed food and beverages firms in Nigeria;
- vii. Investigate the impact of Firm Age on the dividend policy of listed food and beverages firms in Nigeria; and
- viii. Examine the effect of Asset tangibility on the dividend policy of listed food and beverages firms in Nigeria;

1.5 Research Hypotheses

The hypotheses proposed to test for this study are stated in their null form as follows:

- Ho1: Cash flow has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.
- Ho2: Firm size has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.
- Ho3: Profitability has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.

- Ho4: Firm growth has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.
- Ho5: Leverage has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.
- Ho6: Corporate tax has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.
- Ho7: Firm age has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.
- Ho8: Asset tangibility has no significant impact on the dividend policy of listed food and beverages firms in Nigeria.

1.6 Scope of the Study

This study highlights the factors that affect the dividend policy of Nigerian food and beverages firms. The domain of the study is listed food and beverages firms in Nigeria, a sub-sector of the manufacturing industry. This sector has recorded enormous growth over the years, which is perceived to reflect their effectiveness and efficiency in business and as such is chosen as the domain of the study with the view of obtaining a reliable result. The period of the study covers ten years from 2004 to 2011. Eight years is a considerable length of time to achieve a reliable result based on the nature of this investigation. The period is quite recent and therefore, the observed outcome will be very useful both in the present and in the future. The dependent variable for the study is dividend policy and it is proxy by dividend per share. The independent variables are; cash flow, profitability, firm size, firm growth, leverage, corporate tax, asset

tangibility and firm age since the study adopts firm characteristics variables as the independent variables.

1.7 Significance of the Study

Many studies have been conducted on dividend policy. Some studies utilizing same variables and revealing either different result or similar results as well, whereas some of the studies employ different variables and came up with different results. This study therefore, contributes to the existing literatures by examining as many as eight financial variables.

Secondly, financial managers of food and beverages firms and other institutions in Nigeria are beneficiaries of this study because the findings of this study will help them in maintaining a favourable dividend policy for both shareholders and management.

Thirdly, the dividend policy of any organization is not bound to remain in a particular position forever, but rather changes with time due to the dynamic nature of our environments and systems revolving around it. Shareholders are consequently, beneficiaries to the outcome of this study because, in the midst of the unsteady dividend policy, the knowledge of the significant factors that determine dividend policies of different industries, will help them not to derail in making the best decision while looking for where to invest their funds.

Finally, this research will serve as a reference material to academicians who may want to go beyond acquiring the knowledge to venturing into a research of this nature.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, relevant concepts to the area study are discussed for advancement of knowledge in the field of study. Also, literatures related to both the dependent and independent variables are also reviewed since the study focuses on the factors that really affect the dividend policy of firms. The theoretical framework for the study is reviewed taking cognizance of the theory that underpins the study and those that are prevalent in area of study.

2.2 Concept of Dividend

Various definitions of dividend have been put forward by different authors in anticipation to bring to light what dividend actually means. Kurfi (2003) defined dividend as the return on investment to the shareholders (both equity and preference) who have stakes in the business of a firm. This definition of dividend considers both common and preference stock holders. Dividends for preference shareholders are fixed just like interests for bond holders are also fixed, and their fixed dividends must be paid before that of common shareholders. However, for the purpose of this study, only common stock dividend is considered.

Chukwu (2002) defined dividend as the payment recommended by the board of directors of a company and approved by the shareholders to be distributed on pro-rata basis among the shares outstanding. This definition of dividend is quite elaborate. The dividend he is referring to is common stock dividend. He revealed that the board of directors of a company has to sit to recommend the amount to be distributed as dividend to their shareholders, but other definitions mentioned did not uncover such. The dividend payment can be made either from the profit made for the period, retained earnings, or from borrowed funds. Another deduction from the definition

is that the shareholders have to approve the recommendation of the board of directors before the distribution is made. This really implies that shareholders have a prominent role to play in dividend decisions.

Davies and Pain (2002) defined dividend as the amount payable to shareholders from profit or distributable reserve. This definition is a useful tool in explaining the meaning of dividend. Profit and distributed reserves are mentioned as source of dividend payment. No source of payment was mentioned by Chukwu (2002) in his definition of dividend. Doughty (2000) defines dividend as simply the money that a company pays out to its shareholders from the profits it has made.

This study adopts the definition put forward by Chukwu (2002) which states that dividend is the payment recommended by the board of directors of a company and approved by the shareholders to be distributed pro-rata among the shares outstanding. This definition is embraced because it addresses common stock dividend as well as the study does.

2.2,1 Types of Dividend

Once dividend payment is mentioned, what actually comes to the mind of people is cash dividend because most people are familiar with that, since most companies pay cash dividend to their shareholders. Apart from cash dividend, there are several other types of dividend payment that exist which will be uncovered in this study. They include: stock dividend/ bonus shares, scrip dividend, bond dividend, and liquidating dividend.

- i. Cash Dividend: This is dividend paid by a company to its shareholders in the form of cash (Chukwu, 2002). As mentioned earlier, this is the most common type of dividend payment used by firms in settling their shareholders. Companies can pay

cash dividend to their stock holders from profits made or from retained earnings (Nnadi and Akpomi 2008). The decision on the particular means to raise the fund for dividend payment is completely at the board of directors' discretion. According to Pandey (2005), the board of directors can decide to distribute all the profits or part of the profits as dividend depending on the objective of the organization. However, the payout ratio varies from companies to companies depending on the economic conditions, the goals of the company, and the expectation of the shareholders (Kurfi, 2003). Companies can follow stable or unstable dividend policy in payment of cash dividends. Pandey (2005) opines that companies that follow a stable dividend policy can easily prepare cash account for the following period in advance because the trend for payment is already fixed and remains a continual process, but for companies that follow unstable dividend policy, it is difficult to make cash projections. The moment cash dividend is paid, the total assets as well as the net worth of the company reduce.

- ii. **Stock Dividend/ Bonus Shares:** A stock dividend is the allotment of free common stocks to existing common shareholders (Chukwu 2002). Just like the name 'Bonus' implies, it is issued in addition to the cash dividend. Bonus shares are allotted equitably to individual shareholders in correspondence to the number of shares they own. When bonus shares are issued, they automatically increase the company's number of outstanding shares. Pandey (2005), stated that Bonus shares are issued by capitalizing the reserves and surplus, and before a company issues bonus shares, the partly paid up shares must have been converted to fully paid-up shares. Issuing of bonus shares results in the capitalization of the company's profit since the company's profit is converted to share capital. Unlike the payment of cash dividend that reduces

net worth of the company, the issuance of bonus shares does not have any impact on the net worth of the company.

- iii. **Scrip Dividend:** When a company is not liquid enough to pay dividend to its shareholders in the near future, it may decide to issue scrip dividend. Scrip dividend is basically a promissory note (which may or may not include interest) to pay shareholders at a later date. Another way scrip dividend is paid is by issuing shares and debentures of other companies to shareholders of a company when the cash position of the company is not strong. According to Graeme (2012), scrip dividend is paid in lieu of cash dividend, and the shares issued to pay a scrip dividend come from the capitalization of reserves.
- iv. **Bond Dividend:** This is the type of dividend paid by a company to its shareholders in the form of bonds or debenture notes, as an alternative to cash or stock dividend. According to Kurfi (2003) when bond dividend is issued, the shareholders are entitled to fixed return within the tenure of the bond just like every other debt instrument holder of the company and the par value of the bond will be distributed to the shareholders on prorated basis at maturity.
- v. **Liquidating Dividend:** Liquidating dividend is distributed when the board of directors returns back to the shareholders the capital originally contributed by them, especially when the company is winding up and going out of business (Kurfi 2003). According to Ketz, (2010) when a liquidating dividend occurs, it is considered a return of investment rather than a return on investment. Ellentuck, (2012) established that a liquidating dividend distribution is regarded as a full payment in exchange for the

shareholder's stock, rather than a dividend distribution, to the extent of the corporation's earnings and profit.

2.3 Concept of Dividend policy

Dividend policy is principally preoccupied with the decisions concerning the portion of a company's earnings that should be distributed as dividends and the portion that should be retained. Kurfi (2003), opined that the most important aspect of dividend policy is the determination of the amount of earnings to be distributed to shareholders as dividends and the amount to be retained by the company.

According to Watson and Head (2004), dividend policy is a decision that considers the amount of profit to be retained by the company and that to be distributed to the shareholders of the company. The dividend decision taken by a company revolves round the profit made by the company according to Watson and Head (2004). However, Pandey (2005), stated that a firm which intends to pay dividends and also needs funds to finance its investment opportunities will have to use external sources of financing such as issue of debt or equity. Dividend policy is the firm's decision on the amount to be distributed as dividends to its common shareholders from profits made by the firm.

2.3.1 Types of Dividend Policy

Seven types of dividend policy have been identified in the course of this study. They include: constant payout policy, constant dividend per share policy, constant dividend per share plus extra policy, progressive policy, residual policy, zero dividend policy, and alternative to cash policy.

- i. **Constant Payout Policy:** This is also known as fixed policy (Nnadi and Akpomi 2008). The company pays out a fixed percentage of its earnings to shareholders as dividends. For example, a company may decide to pay 30% of its earnings as dividends to shareholders, that 30% remains stable for the agreed period but the amount to be paid out as dividend varies as profits vary. From the example given, it can be seen that the amount of dividend to be paid will fluctuate in direct proportion to earnings. In this type of dividend policy, dividend payment is totally dependent on the profits made by the company. In other words, if the company encounters loss, the shareholders will not be paid dividend since the dividend comes from profits made by the company. Pandey (2005) states that this policy does not put any pressure on a company's liquidity since dividends are distributed only when the company has profits. On the other hand, Watson and Head (2004) opined that constant payout policy can be distressing to companies facing unstable earnings because even though the percentage of earnings to be paid out as dividends is known, the amount to be made as profit is not definite.
- ii. **Constant Dividend per Share Policy:** This is a policy that pays a fixed percentage for each share of the company as dividend, irrespective of the fluctuations in earnings (Pandey 2005). For each share, the Naira amount remains fixed notwithstanding the unsteadiness of the earnings. With time, based on the level of earnings of the company, the fixed percentage per share can either be increased or decreased and maintained for some period of time. Kurfi (2003) stated that the absolute Naira amount is not increased until the management is convinced that the higher dividend level can be maintained in the future. The management also will not reduce the Naira

amount until the evidence clearly indicates that a continuation of the present dividend can no longer be supported.

- iii. **Constant Dividend per Share Plus Extra Dividend Policy:** Companies that implement this policy pay an additional dividend which is not fixed (extra dividend) in addition to paying a small fixed amount of dividend to its shareholders (Kurfi 2003). This type of dividend policy is more suitable for companies that experience fluctuations in their earnings, so as to enable them pay the possible minimum fixed amount they can always afford instead of not paying dividend at all, and also pay additional extra dividend in time of higher earnings. In accordance with Pandey (2005), this type of policy enables a company to pay constant amount of dividend regularly without a default and allows a great deal of flexibility for supplementing the income of shareholders only when the company's earnings are higher than the usual, without committing itself to make larger payments as a part of the future fixed dividend. However, the purpose of this policy may be defeated if extra dividend becomes so frequent that investors come to expect it.
- iv. **Residual Dividend Policy:** This is a situation whereby preference is given to the future investments of the company over the dividend of common shareholders, that the company determines the amounts to be retained from its earnings for its future investment, while the remnant if any is paid out as dividend. Companies that implement this policy would sometimes end up with zero dividend policy in times of low earnings, since dividend payment is not a priority over future investments and this has the propensity to dismiss investors who may not be satisfied with the negative aspect of the policy. Kolb and Rodriguez (1996), stated that firms may need to

- modify this policy to ensure that investors of the different clienteles are not chased out by a strict application of the policy.
- v. **Progressive policy:** In this type of dividend, companies increase the amount they pay out to shareholders as dividends progressively. Companies that adopt this policy would rather not pay dividend for the particular period they are not able to abide by the policy than decreasing the dividend amount in order not to send a wrong signal to investors. According to Kolb and Rodriguez (1996), firms operating this policy will choose to avoid paying dividend during the period of financial constraint than cutting down dividend consistently.
 - vi. **Zero Dividend Policy:** The firms that operate this policy consider the distribution of cash dividend a reduction in the internal fund that should be used in financing their lucrative investment opportunities, as a result, cash dividend is not paid to their shareholders. Nnadi and Akpomi (2008) attest that this policy is mainly carried out by growth firms that need enough funds to finance its investment opportunities. Growth firms have a large number of investment opportunities requiring substantial amount of funds, hence they will give precedence to the retention of earnings over the payment of dividends in order to finance its expanding activities. (Pandey 2005). According to Nnadi and Akpomi (2008), this policy is more favourable for prosperous investors who are more concerned with increasing their wealth and lessening taxes because they own huge amount of shares which placed them in high tax brackets in view of the expectation that their cash dividends would be taxed. However, for small investors, this policy is not the best policy to them because they depend so much on receiving cash dividend as that is their main goal for investing in

shares. Pandey (2005) affirms that wealthy investors have a definite investment policy of increasing their wealth and minimizing their taxes, therefore, they generally prefer a dividend policy of retaining earnings and distributing shares, while small shareholders hold a small number of shares in a few companies with the purpose of receiving dividend income or sometimes making capital gains. Apart from growth firms that are really associated with this policy, some other firms go for zero dividend policy because it avail them the ease of not going through the financial stress involved with paying dividend. Watson and Head (2004), maintained that this type of policy is quite easy to operate and avoids all the costs associated with paying of dividends.

- vii. **Alternative to Cash Dividend Policy:** This is the dividend decision of issuing shares in addition to cash dividend or as a replacement for cash dividend. It is the type of policy whereby shareholders are given additional shares in lieu of cash (Brealey, Myers, and Marcus, 1999). The shares can be issued in form of Bonus shares, share split, and shares buy back. Most companies in Nigeria, issue bonus shares in addition to cash dividend, however, on very few occasions, bonus shares are issued to compensate for cash dividend.

2.4 Concept of Profitability

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important. Whether a business venture is recording profitability for the past period or projecting profitability for the coming period, measuring profitability is the most important measure of the success of the business. A business that is not profitable cannot

survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. However, profits should not be maximized at the expense of concerns for employees, customers, suppliers and society.

Al Shabibi and Ramesh (2012) defined profitability as the ability of the firm to generate profit. Chukwu (2002) defined profitability as the capability of a trading business to generate surplus revenue over its cost for an accounting period. Profitability therefore signifies the productivity and lucrativeness of every business venture. Profit is regarded as the ultimate test of business effectiveness since no business can survive for long if it does not make a profit (Chukwu, 2002).

According to Ross, Westerfield, and Jordan (2001), the profitability variable is represented by two alternative measures: the ratio of profits to assets, which is the return on assets (ROA) and the profits to equity ratio, which is the return on equity (ROE). Fundamentally, ROA reflects a firm's ability to generate profits from its assets. On the other hand, ROE points towards shareholders return on their common shares. ROA reflects the ability of a firm's management to generate profits from the firm's assets, although it may be biased due to off-balance-sheet activities.

The profitability measures generally used in empirical studies on corporate performance are the rate of return on asset (ROA), rate of return on equity (ROE) and earnings per share (EPS) (Al Shabibi and Ramesh, 2011; Chandrakumarmangalam, and Govindasamy, 2010; and Kokemuller, 2007).

Return on assets: Return on assets (ROA) is an indicator of managerial efficiency and it shows how the firm's management transforms the institution's assets under their control into earnings.

Return on assets measures your ability to use your assets to earn profits. Assets include cash and

cash equivalents, as well as physical items of tangible value, such as buildings, equipment and inventory, that you own. You take the net income number on your income statement and divide it by the total assets number on your balance sheet to compute return on assets. A high return on assets is important, because assets often are purchased with debt financing. Since this ratio measures the earning power of assets employed, the higher the ratio, the better it is for the firm. It is defined here as the ratio of net profit after tax to total assets. Awdeh (2005) affirmed that return on equity is linked to return on assets by the equity multiplier (EM), which is equal to total assets divided by total equity (the inverse of the equity-to-asset ratio), or average assets divided by average equity.

Return on Equity: The most popular model for evaluating firm performance is the return on equity model. Return on equity (ROE). This ratio uncovers the definite shareholders' return after interests due to the debenture holders have been paid to them and duly subtracted. It is the amount of net income returned as a percentage of shareholders' equity. A return on shareholder's equity is calculated to see the profitability of owners' investment. It represents the net benefit the shareholders receive from investing their capital, i.e. placing their funds at risk in the hope of earning an appropriate profit. Awdeh (2005), defined return on equity as net income divided by average book value of equity. It can also be calculated as the ratio of profit after tax (PAT) to net worth or shareholders' equity. According to Pandey (2005), the profit after tax to net worth ratio is of great interest to the present as well as prospective shareholders and also of great concern to management which has the responsibility of maximizing the owners' welfare. As this ratio reveals the earning power of a firm on shareholders' book value, investment comparison should be made with return from other investment to determine the relative worth of that investment (Kurfi, 2003). Comparing the return on owners' equity of a company with the quotient for other

related companies, brings to light the comparative performance and the strength of the company in attracting future investments.

Earnings per Share: EPS is the portion of a company's profit allocated to each outstanding share of the company's common stock. It can be measured as the ratio of net income to outstanding shares. When making calculations for EPS, it will be more exact to employ weighted average number of shares over the reporting term, since the number of shares can change over time. However, data sources simplify the calculation by using the number of outstanding shares at the end of the period. Diluted earnings per share expand on basic EPS by including the shares of convertibles or warrants outstanding in the outstanding shares. This is the profitability measure adopted by this study as measured by the ratio of profit after tax to the net income of the firm for the period.

2.5 Review of Empirical Studies on Determinants of Dividend Policy

Several empirical studies have been carried out on the determinants of dividend policy, both in advanced economies like United States of America and United Kingdom (See Gill, Biger, and Tibrewala, (2010) and Al Shabibi and Ramesh (2011)), and developing economies, like Nigeria and Pakistan (See Musa, (2009) and Arif and Akbar (2013)), adopting different models as well as revealing different empirical findings. Numerous factors have been revealed by these studies as determinants of dividend policy. Some of these factors include: Cash Flow, Corporate Tax, Asset Tangibility, Firm Age, Firm Size, corporate profitability, Firm Growth, and Leverage.

2.5.1 Cash Flow/Liquidity and Dividend Policy

The cash flow position of a firm is an important determinant of dividend payout (Gill, Biger and Tibrewala (2010), Abbasi and Ebrahimzadeh (2013), and Charitou (1999). Using data from

selected 320 non-financial firms listed in Karachi stock Exchange, Hafeez and Attiya, (2008), employed three models: Litner (1956), Fama and Babiak (1968) and extension of partial adjustment model, and adopt the static and panel data regressions in estimating the dividend stability of firms and examining the factors that may influence the dividend payout policies of firms. The empirical results revealed that cash flow has positive impact on determining the dividend payout policy in Pakistan. They opined that the cash position of the firm is quite an expedient factor to consider when making dividend decisions, since dividend payment entails cash outflow. It is possible a firm's earnings may be reading so high, yet, its cash position would be nothing to write home about.

Abbasi and Ebrahimzadeh (2013) examined the relationship between dividend policy and cash flow of firms from Tehran stock exchange during the period 2002 to 2008. Operating income and sales income are used as the proxy for cash flow while dividend change is used as a proxy for dividend policy. Ordinary Least Square regression technique was used for analyzing the data. Their findings proved that cash flow has a significant positive relationship with dividend policy.

Gill, Biger and Tibrewala (2010), investigated empirically, the determinants of dividend policy for the American service and manufacturing firms for a year period, that is year 2007. Ordinary least square regression technique was used for analyzing the data. The study showed two different results for service firms and for manufacturing firms since both are of different nature. They found no significant relationship between cash flow and dividend policy for both service and manufacturing firms. However, one year is a very short period for a research of this nature.

Adelegan (2003), analysed empirically the relationship between cash flow and dividend changes on a sample of sixty-three listed firms in Nigeria covering a period of fourteen years (1984-

1997). Pooled cross sectional/time series ordinary least square technique is used for the purpose of data analysis. The empirical findings revealed that cash flow has a significant positive relationship with the dividend policy of firms. The study is quite rich and well elaborated.

Kato, Loewenstein and Tsay (2002), examined the relationship between the cash flow and dividend policy of Japanese firms listed in the first section of Tokyo stock exchange during the period 1982 to 1991. Ordinary least square regression technique was used in analyzing the data. The empirical results showed that cash flow has a significant positive relationship with the dividend policy of firms. They affirmed that the greater the cash position and overall liquidity of the firm, the greater will be its ability to pay dividends. A profitable growing firm would always be in continuous need of funds to finance its investment opportunities, and therefore would not have enough cash to pay substantial amount of dividends, but for established firms that do not have enough investment opportunities to finance, their cash position would be sound enough to sustain high dividend payment, due to the availability of substantial idle cash.

Nyor and Adejuwon (2013) examined the factors that account for dividend payment in Nigerian Banks for a period of ten years from 2001 to 2010. Liquidity is examined as one of the determinant factors. The study employs Ordinary Least Square regression method was the tool for analyzing the data. The findings revealed that liquidity has significant positive relationship with the dividend payout decisions of firms which entails that firms with sound cash flow position pay higher dividend, whereas firms whose cash flow position is not sound, pay lower dividend. The study concluded that liquidity is the foremost determinant of dividend payment decisions amongst other determinants, that is profit after tax (PAT) and shareholders fund (SHF). The study recommended a robust liquidity position that will guarantee investors' confidence and

keep shareholders' fund stable, as profit from daily business will amount to high dividend payout. However, the objectives of the study and the hypotheses are not well spelt out.

Samuel and Gbegi (2010) discovered the association between liquidity and dividend policy of financial institutions quoted on the Nigerian Stock Exchange using the judgemental sampling technique. Survey research method is used for the study and the data utilized was gathered from the annual publications of quoted financial firms in Nigeria. Dividend per Share represents the dependent variable, while Cash Ratio (CR) was used as a proxy for liquidity which is one of the independent variables. The analytical tool used for analyzing the data was the Ordinary Least Square multiple regression technique. The findings revealed that though liquidity has a positive relationship with the dividend policy of firms under study, it does not have a significant impact on the dividend policy of Nigerian financial institutions. However, the period of the study which can be used as a reference tool by upcoming studies is not mentioned in the study.

Mohammad, Muneer, Mohammad, Irfan and Adnan (2014) examined the determinants of dividend payment decisions with industry-wise effect for fifty-three (53) non-financial firms listed on Karachi Stock Exchange for the period 2006 to 2011. Secondary data was collected from companies of different industries which include; engineering sector, fuel and energy sector, cement sector, chemicals sector, textile sector transport and communication sector. Dividend per Share was used as the proxy for dividend policy which was the dependent variable, while cash flow per share represented cash flow. Multiple regression analysis was utilized in identifying the significant determinant of dividend, and industry effect is attained by integrating six dummy variables for the industries under study. The observed outcome showed that cash flow has no significant impact on the dividend policy of all the industries under study.

Griffin (2010) investigated the relationship between liquidity and dividend policy of firms listed on the international markets of Mexico, Hong Kong, Canada, Australia, Argentina, United Kingdom, and Brazil during the period 1988 to 2006. Share turnover was the variable used for liquidity, while dividend per share was used for dividend policy. Ordinary least square regression technique was used in analyzing the data. The observed outcome showed that for British and Brazilian companies that are considered to have low Market Capitalization, liquidity and dividend policy have a statistically significant inverse relationship. The same applied to medium sized Canadian companies. The findings suggested that smaller companies feel the investors' need for liquidity more acutely than larger companies.

2.5.2 Firm size and Dividend Policy

Uwuigbe, Jafaru and Ajayi (2012) examined the relationship between firm performance and dividend policy of listed firms in Nigeria for the period 2006 to 2010 using judgemental sampling technique. Dividend per share was the measure used for the dependent variable. Regression analysis is employed as a statistical tool for analyzing the data collected. They found that firm size has a significant impact on the dividend policy of firms. According to them, bigger firms are more or less mature firms that have easy access to the capital market and therefore, find it easier to obtain funds at a cheaper cost and with less restriction. Consequently, they have the capability to pay higher dividends unlike smaller firms that do not enjoy such concession and therefore are not able to pay high dividends.

Ogbulu and Arewa (2010) investigated the long-run directional relationship between firm size and dividend payment of firms quoted in Nigerian stock exchange for the period 1984 to 2010. Dividend per Share (DPS) represented dividend payment, while firm size was measured as the

natural logarithm of total assets. The study utilized the Granger causality test and Johansen and Juselius co-integration techniques/Error correction mechanism to analyze the data collected for the research. The findings of the study revealed that there is a significant positive directional long run relationship between firm size and dividend payment which implies that an increase in the size of the firm, leads to an increase in dividend payment, while a decrease in firm size decreases dividend payment. Also, at the existence of any short-run disequilibrium or distortion on individual variables, firm size will be restored at a speed of 3%,

Musa (2009) investigated the dividend policy of a cross-section of 53 firms quoted on the Nigerian stock exchange (NSE). The study covered a period of ten years, 1993 to 2002. Dividend yield is used as the proxy for the dependent variable. The parsimonious multiple regression model developed by Musa (2005) was employed for the purpose of data analysis. The empirical findings revealed that firm size has no significant impact on dividend policy.

Ramachandran and Packkirisamy (2010) conducted a study on the impact of firm size on the dividend policy of firms across industries in India during the period 1996 to 2007. The investigation was conducted on a panel sample of seventy-three (73) firms across industries that are listed in the National stock exchange (NSE) India. The industries included; Pharmaceutical, Textile, Chemical and Fertilizer, Information Technology (IT), Oil & Gas, Cement, and Shipping. Dividend policy was estimated as dividend payout ratio (DPO), whereas firm size was measured as the natural logarithm of total assets. Ordinary least square multiple regression technique was used for analyzing the data. The findings revealed that firm size has no significant impact on the dividend policy of firms. They argued that irrespective of the size of the firm, while shareholders concentrate their attention on dividend yield, management pays more attention to the impact of dividend yield on the firm's capital need. They went further to buttress

the fact that a high dividend payout reduces the firm's access to retained earnings which is often viewed as the lowest cost of capital and for that reason, management may prefer lower dividend payout ratios, but must recognize the realities imposed by shareholders' preference for at least some payment of dividends. Their findings were quite commendable.

Adelegan (2003) carried out a research on the impact of firm size on the dividend behaviour of corporate firms in Nigeria for the period 1984 to 1997. Ordinary least square regression technique was employed as a statistical tool for analyzing the data. The empirical findings revealed that firm size has no significant impact on the dividend behaviour of corporate firms. However, some findings are inconsistent with the conclusions.

Hashemi and Kashani Zadeh (2012) examined the determinants of dividend payout decisions of listed companies on Tehran Stock Exchange from 2003 to 2010. Panel data multiple regression method is used as a tool for data analysis. They found that firm size has a significant positive relationship with dividend policy of firms. Their findings suggest that the bigger the size of a firm, the higher the capability to pay dividends.

Using pooled cross section and time series data, Al-Malkawi, Twairesh and Harery (2013) examined the determinants of the likelihood to pay dividends of firms listed on the Saudi Stock Exchange (SSE) for the period 2005-2011. The dependent variable was represented by a dummy variable 1 for dividend payment and 0 for non-dividend payment. Firm size was measured by natural logarithm of total assets. The data collected for the study was analyzed using the logit regression technique. The analyses were based on balanced panel data with 483 firm year observation. The results of the observations showed that larger firms are more likely to pay dividend since firm size has significant positive relationship with the dividend of firms.

Kowalewski, Stetsyuk, and Talavera (2007) used financial data collected from Euromoney ISI Emerging Market and Notoria data bases as well as annual reports of sampled companies to investigate the determinants of dividend policy of one-hundred and fifty-five (155) non-financial companies listed on Warsaw stock exchange Poland for the period 1998 to 2004. Using ordinary least square regression technique to analyze the data collected, the findings revealed that firm size has significant positive relationship with the dividend payout decisions of firms. They emphasize that the more the total assets a firm has, the more the likelihood of paying dividends.

El Essa, Hameedat, Altataireh and Nofal (2012), carried out a research on the worthy factors that determine the dividend policy of industrial corporations listed on Amman stock exchange for the period 2005 to 2011. The study utilized multiple regression technique as a tool for data analysis. The empirical results show that firm size is one of the worthy factors that determine the dividend payout decisions of firms since it has significant positive impact on the dividend policy of firms

Salehnezhad (2013) studied the relationship between firm size and dividend policy of companies listed on Tehran Stock Exchange for the period 2010 to 2012, using Fuzzy regression technique. According to the author, Fuzzy regression analysis was employed because Iran is a Fuzzy environment. The findings revealed a statistical significant relationship between firm size and dividend policy. However, the technique employed for data analysis is substandard.

Adelegan (2000) conducted a research on the determinants of dividend decisions of firms listed on Nigerian Stock Exchange, using pooled cross sectional/time series data for the full sample of observations from 1984-1994. Ordinary Least Square (OLS) regression technique was used as the tool for data analysis. The findings of the study revealed that firm size has significant impact on the dividend decisions of firms.

2.5.3 Corporate Profitability and Dividend policy

Corporate profitability has long been regarded as the primary indicator of a firm's capacity to pay dividend (Gill, Biger, and Tibrewala, (2010), Pruitt and Gitman (1991, Al-kuwari (2009), Al-Malkawi (2007) and Rafique (2012)).

Juma'h and Olivares Pacheco (2008) investigated the financial factors influencing cash dividend policy of U.S manufacturing firms during the period 1994 to 2003. Multiple regression techniques were used to analyze the data. Their findings revealed that profitability has a significant positive relationship with dividend policy of firms. They go further to conclude that profitability is one of the key determinants for cash dividend decision.

Ajanthan (2013) carried out a research on the relationship between dividend payout and profitability of listed hotels and restaurant companies in the Colombo Stock Exchange. Regression and correlation tool of analysis are employed for the purpose of data analysis. They found a strong positive relationship between profitability and dividend which suggests that increase in profitability increases dividend payout. They argued that the principal objective of every firm is to maximize the wealth of shareholders, and the maximization of shareholders wealth can never be effective when the organization is not able to make profit, and a firm that experiences persistent loss will find it very difficult to pay dividend to its shareholders. However, the period covered in the study was not mentioned and therefore makes it difficult for other researchers to rely on the findings.

Using a pooled cross-section and time series data of 103 publicly traded firms on the Amman stock exchange, for the period 1989 to 2000, Al-Malkawi (2007) conducted a study on the determinants of dividend policy of all the companies listed on Amman stock exchange. Tobit

estimation techniques were used in analyzing the data. Profitability was used as one of the determinant factors amongst other factors. The findings revealed that profitability has a significant positive relationship with the dividend policy of firms in Jordan. The findings enhance the knowledge base of dividend policy in Jordan, and developed a concept of dividend policy in achieving a competitive advantage in emerging economies such as Jordan.

Zaman (2013), investigated empirically, the factors that determine the dividend policy of all 30 private commercial banks listed in Dhaka Stock Exchange in Bangladesh over a period of Seven (7) years, 2006 to 2012. Correlation and regression models were used to test the relationship between the chosen determinants and dividend. The results showed that profitability has the strongest relationship with dividend decisions, but its impact on dividend decisions is not statistically significant.

Imran, (2011), examined the determinants of dividend policy of Pakistan Engineering firms listed in Karachi Stock Exchange (KSE). The period for the study covered thirteen years, 1996 to 2008. Panel regression model (ordinary least square, fixed effect and random effect approach) was used in analyzing the data. The observed outcome shows that profitability has a significant positive relationship with the dividend policy. The results are robust to variations in measurement and estimation techniques.

Using multiple regression techniques as the tool for data analysis, Maniagi, Ondiek, Musiega, Maokomba and Egessa (2013) revealed the determinants of dividend payout policy among non-financial firms listed on Nairobi securities exchange, Kenya for five years duration 2007 to 2011. Profitability was measured by Return on Equity (ROE) and Earnings Per Share (EPS). The findings revealed that profitability has a significant positive relationship with the dividend

payout policy of non-financial firms listed in Nairobi Securities exchange. This implies that increase in profitability necessitates increase in dividend payout. The study concluded that profitability is one of the main determinants of dividend payout policies.

Adediran and Alade (2013) found the relationship between dividend policy and corporate profitability of Nigerian firms for the period 2010. The source of data employed is annual reports and accounts of companies quoted on the Nigerian Stock Exchange. Dividend per share was the dependent variable whereas profitability was measured as Return on Capital Employed (ROCE). Multiple regression technique, with the aid of e-view software was used in analyzing the data. The empirical results show a significant positive relationship between profitability and dividend policy. The study concluded that dividend policies of organizations are imperative in improving the profitability of firms, and recommended that organizations should ensure that they have a good and robust dividend policy in position since it enhances profitability. However, the achieved result would have been more authentic for generalization purpose if the period of study is extended.

Using multivariate regression techniques to analyze the data collected from a sample of fifty-three (53) non-financial firms representing 11 sectors listed on Karachi Stock Exchange 100 Index for the period 2005-2010, Rafique (2012) found the relationship between profitability and dividend policy. The findings revealed that profitability has no significant relationship with the dividend policy of non-financial firms listed on Karachi Stock exchange.

Mehta (2012) examined the important factors that determine the dividend payout decisions of all United Arab Emirates (UAE) firms in the areas of real estate, energy sector, construction sector, telecommunications sector, health care and industrial sectors (except bank and investment

concerns) listed on the Abu Dhabi Stock exchange for a period of 5 years from 2005-2009. The study used the firm's dividend payout ratio as the dependent variable to represent the dividend decision. The study applied multiple regression technique to find out the most significant variables used by 23 UAE firms in making dividend decisions. The results showed that profitability is not one of the most important factors that affect the dividend payout decisions of firms since it does not have a significant relationship with dividend payout. The study suggests that more research should be carried out in this area.

Arif and Akbar (2013) carried out a research on the determinants of dividend policy of non-financial firms listed on Karachi Stock exchange for the period 2001 to 2010. Panel data regression analysis was conducted for the purpose of data analysis. The findings of the study revealed that corporate profitability is one of the most influential determinants of dividend policy since it has a significant positive relationship with the dividend payout ratio of firms. The findings suggested that more profitable firms pay higher dividends than less profitable firms.

2.5.4 Firm Growth and Dividend Policy

Khan et al (2011), conducted a study on the determinants of dividend policy of foreign listed companies on Karachi stock exchange, using primary data extracted from questionnaires administered to and interviews conducted on finance directors of sixty foreign listed companies. The results showed that growth has significant impact on the dividend policy of firms. They argued that firms that are still growing would need enough capital to finance its investment opportunities and may have to reinvest every possible fund they can lay hands on as profit, including its retained earnings, but established firms on the other hand have less investment opportunity to finance because their financial capability has already advanced, therefore, a little

fraction of the earnings is retained for infrequent financial needs that may come up at any time, while the remaining is distributed as dividend to shareholders. However, the type of data used can easily be influenced by the researcher since it's collected at the researcher's discretion and therefore is not completely reliable.

Gupta and Banga (2010), found the determinants of dividend policy of Indian companies listed on Bombay stock exchange. The sample companies were drawn from the broad based BSE 500 index. The period of the study was seven years from 2001 to 2007. Multiple regression technique was employed for data analysis. The observed outcome disclosed that firm growth has a positive but not significant relationship with the dividend policy of firms. They emphasized that rapid growing firms have a high demand for capital, thereby, acquiring debt to enable them make up for their financial insufficiency, and such firms tend to pay lower dividends.

Using firm-level data from four countries, including Australia, France, the U.K, and the U.S, Kang (2009) conducted a study on country influences on corporate dividend policy, for the year 1986 to 1995. Multiple logistic regression technique was used for the purpose of data analysis. The empirical results showed that individual countries have different factors that determine the dividend policy of firms. For Australia, firm growth was one of the significant dividend determinants of dividend policy. For France, firm growth has no significant impact on the dividend policy of firms. For the U.K, firm growth was one of the significant determinant variables. For the U.S, firm growth was one of the factors that determine dividend policy of firms. Apart from individual countries dividend payout ratio determinants, there were factors that significantly determine the dividend policy of firms across the countries. Firm growth was one of the factors that have significant negative effect on firms across countries. They affirmed that the growth rate of firms differs depending on the availability of funds for investment opportunities

and the level of their profitability. At any point in time, the more rapid the rate at which a firm is growing, the greater its need for internal funds and hence, the more likely the firm is to retain earnings rather than pay them out as cash dividend. The research is all embracing and is not far from standing the test of time.

Rafique (2012) investigated the factors affecting the dividend policy of non-financial firms listed on Karachi stock exchange for a period of six years (2005-2011). The study considered multivariate regression analysis as the appropriate tool for econometric analysis of the data. The regression results revealed that firm growth has no significant impact on the dividend policy of firms.

Gul, Mughal, Bukhari and Shabir (2012) examined the determinants of corporate dividend policy of Banks listed on Karachi stock exchange. The study covered the period of six years, 2006 to 2011. Correlation coefficient method is used for analyzing the data. The observed results showed that firm growth has a weak positive relationship with the dependent variables. The results also revealed that 61% of bank listed in Karachi stock exchange pay dividends while the remaining 39% do not pay dividends. The banks that pay dividends were found to be more or less mature and established firms that do not have much investment opportunities to finance. They affirmed that when a firm does not have so much investment opportunities to finance, they have enough idle cash which enable them to pay dividends to their shareholders. However, the technique of analysis used did not reveal whether the relationship between the dependent and independent variables are significant or not. Regression technique would have given a better result.

Oladipupo and Okafor (2013) conducted a study on the relationship between firm growth and dividend policy of manufacturing firms listed on the Nigerian Stock Exchange (NSE) during the

period 2002 to 2006. Both the Pearson product moment correlation technique and Ordinary least square regression techniques were used in analyzing the data. The observed outcome showed that firm growth has no significant impact on the dividend policy of listed Nigerian manufacturing firms.

Alzomaia and Al-Khadhiri (2013) examined the determinants of dividend policy for non-financial firms listed on Saudi Arabia stock exchange for the period 2004 to 2010. Panel data regression model was used in analyzing the data. The findings revealed that firm growth has no significant impact on the dividend payout decisions of firms.

2.5.5 Leverage and Dividend Policy

Leverage is one of the prominent factors affecting the dividend policy of firms because of the risks associated with it which must be properly managed to ensure profitability which in turn determines whether dividend must be paid or not. (Adams, Gritta, and Adrangi (2005))

Alam and Hossain (2012) examined the determinants of dividend policy of UK based firms listed on the London stock exchange, and Bangladesh based firms for the period 2001 to 2010. Multiple regression technique was used as a tool for analyzing the data. They found that leverage has a significant positive influence on the dividend payout decisions of UK listed firms. But for Bangladesh based firms, leverage has no significant relationship with the dividend policy of firms.

Adopting dividend per share as a proxy for dividend policy, Asif, Rasool and Kamal (2011) found the impact of leverage on dividend policy of company listed on Karachi Stock Exchange during the period 2002 to 2008. Multiple regression technique was utilized in analyzing the data

collected for the study and the findings revealed that debt ratio which represents leverage has a significant negative impact on the dividend policy of firms listed on Karachi Stock Exchange.

Malik, Gul, Khan, Rehman, and Khan (2013) examined the determinants of dividend policy of financial and non-financial firms listed on Karachi stock exchange during the period 2007 to 2009. Panel data ordinary least square regression method was used in analyzing the data collected for the study. The findings revealed that leverage has a significant positive impact on the dividend policy of firms. However, three years is not long period enough to achieve a reliable result.

El Essa, Hameedat, Altataireh and Nofal (2012), carried out a research on the worthy factors that determine the dividend policy of industrial corporations listed on Amman stock exchange for the period 2005 to 2011. The study utilized multiple regression technique as a tool for data analysis. The results showed that leverage has a negative relationship with the dividend payout decisions of firms. The study concluded that leverage is not one of the worthy factors that determine the dividend payout decisions of firms since it has no significant impact on the dividend policy of firms. They argued that debt principal and interest payment reduce the ability of firms to have residual income to guarantee dividend payment

Khan, Naz, Khan, Khan, Khan, and Munghal (2013) conducted a study on the Impact assessment of financial performance and leverage on dividend policy of listed Pakistan chemical and pharmaceutical industries from 2003 to 2010. Ordinary least square regression method was used for analyzing the data collected for the study. The empirical findings revealed that leverage has no significant impact on the dividend payout decisions of listed Pakistan chemical and pharmaceutical firms. Their findings suggested that value creation is independent of its debt and

equity financing, therefore, firms should avoid leverage financing and pay less interest where dividend payout will be increased.

Javed (2012) investigated empirically, the impact of leverage on dividend policy of Pakistan firms listed on Karachi stock exchange for a period of five years (2005-2010). Multiple regression technique is utilized for data analysis. The empirical results showed that leverage has a significant positive impact on dividend policy of Pakistan firms listed on Karachi stock exchange. However, the analysis and interpretation of data is not quite elaborate.

Emamalizadeh, Ahmadi, and Pouyamanesh (2012) carried out a research on the impact of leverage on the dividend policy of food industries listed on Tehran stock exchange for eight years-period (2003-2010). Extended model of Litner, (1956) was employed in testing the dividend policy of firms. Dividend policy which was the dependent variable is estimated as dividend per share, while debt ratio represented leverage. Panel data regression technique specifically fixed and random effect technique was used in analyzing the data collected for the study. The findings revealed that leverage has no significant impact on the dividend policy of firms.

Uwuigbe (2013) investigated the determinants of dividend policy of fifty firms listed on Nigerian Stock Exchange for the period 2006 to 2011. Debt ratio was used as a proxy for leverage, while Ordinary Least Square regression method is used in analyzing the data. The findings of the study revealed a significant negative relationship between leverage and dividend policy. They argued that firms with high leverage tend to have low payout ratios in order to reduce the transaction costs associated with external financing. However, the findings would have been more current if he had extended his scope of study to year 2013.

Nnadi, Wogboroma and Kabel (2013) analyzed the determinants of dividend policy for firms listed in the African stock exchanges for the period 1998 to 2009. Using Heckman Selection test, leverage which is measured by Debt Equity Ratio (DER), was selected as one of determinant variable while dividend policy is proxy by dividend yield. Tobit Estimation method called Tobit Specification was used in analyzing the data collected for the study. The observed outcome of the research showed that leverage has a significant negative relationship with the dividend policy of listed firms in the African Stock Exchanges. This finding suggested that firms with high debt ratio tend to pay fewer dividends.

Ogbulu and Arewa (2010) investigated the long-run directional relationship between leverage and dividend payment of firms quoted in Nigerian stock exchange for the period 1984 to 2010. Dividend per Share (DPS) represented dividend payment, while debt ratio was used as a proxy for leverage. The study utilized the Granger causality test and Johansen and Juselius co-integration techniques/Error correction mechanism to analyze the data collected for the research. The findings of the study revealed that there is a significant inverse long-run unidirectional relationship between leverage and dividend payment which implies that an increase in leverage causes a decrease in dividend payment, while a decrease in leverage increases dividend payment. Also, at the existence of any short-run disequilibrium or distortion on individual variables, dividend per share (DPS) will be restored at a speed of 56%, while debt ratio will be restored at 4% individually per annum to the long-run equilibrium.

Utilizing secondary data collected from Center for Monitoring Indian Economy Private Limited (SMIE) and Prowess Package, and employing Pearson-product moment correlation and Ordinary least square regression method, Ramachandran and Packkirisamy (2010) found the relationship between leverage and dividend policy of firms across industries in India during the period 1996

to 2007. Debt ratio was used as a proxy for leverage. The findings reveal that there is significant inverse relationship between leverage and dividend policy of firms.

Santhi and Lee (2011) investigated the leading factors affecting the dividend payment decisions of food industries under the consumer products sector that are listed on Malaysian Stock Exchange for the period 2004 to 2008. Current dividend per share was used as a proxy for the dependent variable which is dividend policy, whereas Debt equity ratio represented leverage. Selected sampled firms were firms that declared cash dividend throughout the period of the study 2004 to 2008. Data collected were empirically analyzed using the Pearson correlation and Regression Model. The findings revealed that leverage has a significant positive relationship with dividend policy of food industries listed on Malaysian stock Exchange. The study concluded that most of Malaysian food industries companies are relying on the debt equity ratio when deciding the dividend payment ratio.

2.5.6 Corporate Tax and Dividend Policy

Anil and Kapoor (2008) conducted a study on the determinants of the dividend payout ratio of the Indian Information Technology sector for seven years (2000-2006). The study utilized pooled data multiple regression technique for analyzing the data collected for the study. The empirical findings revealed that corporate tax has no significant impact on the dividend policy of Indian Information Technology firms.

Using ordinary least square regression technique as the tool for data analysis, Gill, Bigger and Tibrewala (2010), investigated empirically, the determinants of dividend policy for the American service and manufacturing firms for one-year period, which is year 2007. The study showed two different results for service firms and for manufacturing firms since both are of different nature.

Corporate tax was found to have significant positive relationship with the dividend policy of manufacturing firms, but failed to show any significant relationship between the corporate tax and dividend policy for service firms. However, one year is a very short period for a research of this nature.

Arif and Akbar (2013) conducted a study on the determinants of dividend policy of non-financial firms listed on Karachi Stock exchange for the period 2001 to 2010. Panel data regression analysis was conducted for the purpose of data analysis. The findings of the study revealed that corporate tax was one of the most influential determinants of dividend policy since it has a significant negative relationship with the dividend payout ratio of firms. The findings suggested that payment of corporate tax decreases the profits realized by the firm and consequently reduces the amount which would have been paid as dividend.

Making use of a sample of fifty-three (53) non-financial firms representing 11 sectors listed on Karachi Stock Exchange 100 Index for the period 2005-2010, and employing multivariate regression techniques to analyze the data collected, Rafique (2012) found the relationship between corporate tax and dividend policy. The findings revealed that corporate tax has no significant relationship with the dividend policy of non-financial firms listed on Karachi Stock exchange.

2.5.7 Firm Age and Dividend Policy

Al-Malkawi (2008) carried out a research on the factors influencing corporate dividend policy of publicly quoted companies in Jordan from 1989 to 2003. Tobit estimation method was used for analyzing the data. The empirical results showed that age has a significant positive relationship with dividend policy of firms, which suggests that older firms with less growth options are more

likely to pay higher dividends. On the contrary, Age square has a significant negative impact on the dividend policy of publicly quoted firms in Jordan, which suggests that age is quadratically negatively related to dividend decisions. That is, when a mature firm moves from the lower growth phase to higher growth phase, the probability to pay dividend will decline. However, regression technique would have fitted in better as a tool of analysis.

Badu (2013) investigated the determinants of dividend policy of listed financial institution in Ghana for the period 2005 to 2009. Using fixed and random effect techniques, the findings revealed that age and age square have significant positive relationship with the dividend payout decisions of firms. According to the researcher, the older a firm gets, the lesser its investment opportunities, the more the idle cash available and the more the likelihood of paying a higher dividend. On the other hand, the younger a firm is, the more reserve they build up to face their rapid growth and financing requirements, the lesser the idle cash available, the less the possibility of paying lower dividends.

Using fixed and random effect techniques, Marfo-Yiadom and Agyei (2011) examined the determinants of dividend policy for banks in Ghana for the period 1999 to 2003. The data employed in the study was sourced from the Banking Supervision Department of Banks of Ghana. Dividend payout ratio was used as a measure for the dependent variable. The age of the firms was estimated as the natural logarithm of firm age. The empirical findings reveal that firm age has significant negative effect on the dividend policy of firms.

Utilizing pooled cross-section and time series data, Nnadi, Wogboroma and Kabel (2013) analyzed the determinants of dividend policy of 2105 firms listed in the 38 African countries for the period 1998 to 2009. Age was one of the variables employed as a determinant variable using

Heckman Selection test. The dependent variable which is dividend policy was proxy by dividend yield. Tobit Estimation method called Tobit Specification is used in analyzing the data collected for the study. The findings of the study revealed that age has a significant positive relationship with the dividend policy of listed firms in the African Stock Exchanges. Age was concluded in the study as an important determinant of the decision to pay dividend.

2.3.8 Asset Tangibility and Dividend Policy

According to Bradley, Jarell and Kim (1984), firms which have a greater portion of their assets in the form of tangible assets enhance their ability to raise debt finance and at a cheaper cost thereby, reducing the pressure on internally generated fund. Al Shabibi and Ramesh (2011) evaluated the determinants of dividend policy of non-financial UK firms. The authors used data collected from 103 non-financial UK firms through forecasting analysis and modeling environment data base and annual reports. The period of the study covered only one year (2007). Multiple regression Model is used to analyze the data. They found that asset tangibility has no significant positive relationship with the dividend policy of firms. However, one year is a very short period to achieve consistent findings

Marfo-Yiadom and Agyei, (2011) used various measures together with asset tangibility to examine the determinants of dividend policy of banks in Ghana. Panel data was used from 1999 to 2003, and the data was analyzed within the platform of fixed and random effect techniques. The findings disclosed that asset tangibility has significant positive impact on the dividend policy of banks in Ghana. The study also concluded that asset tangibility is one of the major determinants of dividend policy. The authors argued that firms that have almost all their assets as tangible assets are in a better chance to acquire debt even at a very low rate thus, lessening the

stress on retained earnings of the firm as well as increasing the possibility of paying higher dividends. Tangible assets boost the collateral capacity of a firm.

Chen and Dhiensiri (2009), tested empirically, the factors that determine the dividend policy of non-financial firms listed in New Zealand during 1991 to 1999. Ordinary least square regression technique was used to analyze the data collected for the study. The findings revealed that asset tangibility has no significant impact on the dividend policy of non-financial firms listed in New Zealand stock exchange.

Al-Shubiri (2011) conducted a research on the determinants of dividend policy of industrial firms listed on the Amman stock exchange for five-year period (2005-2009). Fixed and random effect regression techniques were used in analyzing the data. The findings revealed that asset tangibility has a significant positive relationship with the dividend payout decisions of firms.

Foroghi, karimi, and Momeni (2011) examined the relationship of dividend behaviour and likelihood of paying dividend with financial variables in Tehran stock exchange. The research covered a period of Seven (7) years from 2002-2008. The dependent variable was proxy by dividend per share and estimated as dummy variable by assigning 1 to dividend payment and 0 to non dividend payment. Tobit and Logit regression techniques were used in analyzing the data. The empirical results showed that asset tangibility has a non-significant negative relationship with the dividend decisions of firms in Tehran. However, the topic of the research was not well coined.

Using probit model panel data Multiple regression techniques, Saeed, Riaz, Lodhi, Munir, and Iqbal (2014), analyzed the determinants of dividend payouts of all the financial sector firms listed in Karachi stock Exchange Pakistan for the period 2007 to 2012. The dependent variable

was dividend payout ratio which is represented by dummy variable 1 for dividend payment and 0 for non-dividend payment. Applying 5% significance level, the observed outcome of the research showed that asset tangibility has no significant impact on the dividend policy of listed financial firm in Karachi Stock Exchange.

Abbasi and Ebrahimzadeh (2013) found the relationship between asset tangibility and dividend policy for the period 2002 to 2003, using ordinary least square regression technique. The findings revealed that firms that have larger portion of their total assets in form of tangible fixed assets pay more dividend than firms that do not have their total assets dominated with tangible fixed asset. Thus, asset tangibility has significant positive relationship with dividend policy of firms.

Vo and Nguyen (2014) investigated the interrelationship between asset tangibility and dividend policy using three-stage least squares (3SLS) estimation on a sample of 81 listed firms on Ho Chi Minh (HCM) City Stock Exchange (HCSE) during the period 2007–2012. Asset Tangibility was measured as the ratio of book value of fixed assets to book value of total assets, while dividend policy was measured as dividend payout ratio. The empirical findings revealed that asset tangibility has a significant negative relationship with dividend policy. This finding implies that firms that have their assets dominated by fixed assets pay less dividends than firms whose assets are less of fixed assets.

2.6 Theoretical Framework

Corporate dividend policy has captured the interest of financial economists and has been an issue of intensive theoretical models and empirical examination over the last few decades (Frankfurter

and Wood 1997). Some theorists attested to the relevancy of dividend while others refute the attestation and posit its irrelevance.

The genesis of the argument regarding dividend policy lies in the work of Modigliani and Miller (1961), in their well-known proposition which is referred to as “The M&M Irrelevance Theorem”. The theory posited that under a perfect capital market condition, the dividend policy of a firm does not affect the value of the firm, and is therefore irrelevant with the underlying assumptions of existence of perfect capital market, fixed investment policy, and no risk of uncertainty. This theory was postulated with reference to clientele effect, which states that a firm will attract shareholders whose preferences with respect to the payment pattern and stability of dividends corresponds to the firm’s payment pattern and stability. The reasoning behind the clientele effect is that since investors are already classified into different dividend clienteles, what really matters to them is getting what they anticipated for and in this case, the dividend policy of the firm does not affect the value of the firm’s share.

They maintained that the value of the firm depends on the earning potential of the firm’s investment policy and not the percentage of the earnings that is distributed as dividend and the portion retained. They extended their argument to the fact that shareholders are unconcerned about whether dividend is paid or all the earnings are retained, and whether their returns from holding a stock arise from capital gains or dividends, since the wealth of shareholders is not influenced by current or future dividend decisions but hinges totally on the expected future earnings stream of the firm. They went further to suggest that the positive effect of dividend increase on the share price is as a result of the informational content of the dividend increase and not just because of the increase in dividend. However, the Modigliani and Miller’s arguments

when placed on the scale of practicability may not produce an alarming weight owing to their practical inconsistencies.

In practice, the existence of a perfect capital market is very rare, if at all it exists; issue of shares involves transaction costs, there may be risk of uncertainties since the predicted future price of shares and dividends by investors is subject to change due to market imperfections and unpredictable future gains. The lapses associated with the M&M assumption has rendered the theory practically irrelevant and automatically declared dividend relevant as well. Therefore, dividend decision is relevant as well as the factors that determine dividend policy.

The theories that underpin this study are “agency cost theory” and “bird in the hand theory”. According to Jensen and Meckling (1976), agency relationship is a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. The shareholders are the owners of the business while the managers are their agents who run the day to day activities of the firms. However, managers’ interests are not necessarily the same as shareholders’ interests, and they might engage in activities that are costly to shareholders, such as exhausting disproportionate advantages or over-investing on unprofitable ventures that can only satisfy their interest. The principal can limit divergences from his interest by establishing appropriate incentives for the agent and by incurring monitoring costs designed to limit the aberrant activities, of the agent (Jensen and Meckling, 1976). The payment of dividends might serve to align the interests and mitigate the agency problems between managers and shareholders, by reducing the discretionary funds available to managers (Al-Malkawi, Rafferly and Pillai, 2010).

Shareholders can control managers' excesses by resorting to external financing and this is where leverage comes in. Before resorting to external financing, the collateral capacity (asset tangibility) of the company should be put in place to enable external financing, and this in turn increases the total assets (size) of the firm. Resorting to external financing will remove the free cash flow from the hands of managers and puts considerable pressure on managers to intensify their efforts to generate sufficient profits to be able to settle their debts and pay dividends to shareholders. According to Easterbrook (1984), dividends are used to remove the free cash flow from the manager's supervision and use it to settle the shareholders. He argues that the managers have to really intensify their effort in sourcing for funds to finance new projects by turning to the capital market to meet their financial needs. The theory supports the relevance of dividend payment, thereby, agreeing to the fact that dividend payment can be determined by certain factors.

Gordon (1963) developed the theory known as the Bird in the Hand theory. The theory states that investors prefer dividend from a stock to potential capital gains because of the inherent uncertainty of capital gain. According to Gordon, dividend policy affects the value of a firm based on the assumption that under conditions of uncertainty, investors tend to discount future dividends (capital gains) at a higher rate than they discount current dividends. He maintained that investors are generally risk averse and therefore attach less risk to current dividend as against future dividend or capital gains. They would be willing to pay higher price for the shares that pay the greater current dividend. Gordon argued that when dividend policy is considered in the framework of uncertainty, the appropriate discount rate cannot be assumed to be constant because, the further one looks into the future, the more uncertain dividend becomes. Theorizing in favour of dividend relevance has made the bird in the hand theory useful for this work as

opposed to some other theories that posit dividend irrelevance. Al-Malkawi (2007) points out that dividends are valued differently from capital gains in a world of uncertainties.

2.7 Summary

This chapter has made an effort to illuminate the meaning and types of dividend as well as types of dividend policy. Dividend is the payment recommended by the board of directors of a company and approved by the shareholders to be distributed pro-rata among the shares outstanding, while dividend policy considers the amount of profit to be retained by the company and that to be distributed to the shareholders. Various types of dividend include; cash dividend, stock dividend, property dividend, scrip dividend, and liquidating dividend whereas types of dividend policy comprise of constant payout policy, constant dividend per share policy, constant dividend per share plus extra dividend policy, progressive policy, residual policy, zero dividend policy, and alternative to cash dividend policy.

Some vital factors that are dominant in the firm's dividend decision are identified as well as their significant effect on the dividend policy of firms as revealed by previous researchers. These factors range from profitability, leverage, firm growth, firm size, firm risk, and host of others as reviewed in the literature.

The relevance of dividend was supported by the bird in the hand theory and agency cost theory whereas the M&M irrelevance theorem theorized otherwise.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter elucidates the research design employed, the sources of data, as well as the method through which the data is collected. It also presents the population and the sample size of the firms under study as well as the techniques of analysis selected to analyze the data along with the justification for utilizing the methods and techniques.

The objectives of the study as well as the features of the data needed for the study served as a guide for the adoption of the methodology. The methodology adopted consists primarily of a comprehensive impact of dividend determinant factors on the dividend policy of Nigerian food and beverages firms. Accordingly, inferences were drawn regarding the extent of the impact.

3.2 Research Design

This research is quantitative in its approach. Based on the nature of investigation involved in the study, correlational research design is employed. This research design is useful in testing for statistical relationship between variables. According to Gill, Biger, and Tibrewala (2010), correlational research design is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships.

3.3 Population and Sample of the Study

The population of the study consists of thirteen food and beverages firms that are listed on the Nigerian stock exchange (NSE). These firms are selected because among all the sectors whose firms are listed on NSE, food and beverages have the least number of firms delisted throughout

the period of the study, making it possible to achieve a reasonable population as well as sample size and confirming that they can be relied on for a valid result. They are also limited liability companies that have common shareholders who are entitled to dividend payment. With the intention of arriving at an appropriate sample size that will be a suitable representation of the population under study, adjusted population through filtering process is utilized. This process involves carefully selecting the suitable elements that should be included in the sample chosen in an articulate manner from the target population. The filtering process is utilized for this study with the expectation that all the thirteen (13) food and beverage firms comprising the population have equivalent possibility of accomplishing a number of criteria. The criteria include the following;

- i. Firms that have been in operation throughout the period of study.
- ii. Firms that have not changed their names throughout the period of study.
- iii. Firms that have all the necessary financial and market data contained in their financial statements as published in their annual reports. The data covers free cash flow, total assets, fixed assets, earnings per share, dividend per share, earnings before tax, net income, corporate tax, year of Incorporation, and total liability.

Based on the first criterion, eleven firms scale through while two firms are dropped. One firm is also dropped because it does not meet the second criterion. Out of the remaining ten (10) firms, two firms are also dropped because they fail to meet the third criterion, leaving us with eight firms out of the thirteen firms that made up the population of the study. Eight (8) food and beverage firms are thereby drawn from a total of thirteen (13) food and beverage firms identified above, representing 62% of the population of the study.

3.4 Sources and Methods of Data Collection

This research is completely based on secondary sources of data. The sources of data utilized for the study is data obtained from the published financial statements and of the sampled food and beverages firms under consideration covering the period of ten (8) years (2004-2011).

The data are sourced from the published annual reports of firms which are accessible from the Nigerian Stock Exchange file desk. The financial statement constitutes the individual income statement, statement of financial position and the cash flow statement. From the income statement, statement of financial position and cash flow statements of firms, it is possible to obtain data for such variables as; Dividend per share (DPS), cash flow (CAFL), Asset Tangibility (AST), Profitability (PROF) Leverage (LEVR), Firm Size (FSZ), Firm Growth (FGR), and Corporate Tax (CTAX), while Firm Age (FAGE) was obtained from the history of individual firms embedded in the annual reports of firms under study.

3.5 Techniques of Data Analysis.

Panel data multiple regression techniques is employed to analyze the panel data based on fixed effect robust regression model using STATA 11.0. Supportive analyses are carried out like descriptive statistics which provide information on mean, standard deviation and minimum and maximum values in the set of data analyzed. Also, the correlation matrix results are produced in order to understand the interrelationship between variables. The Breusch-Pagan/Cook-Weisberg tests for heteroskedasticity and multi-collinearity test for auto correlation are also carried out to test for the model fitness. This technique is used because it can capture more than one independent variables, establishing the relationship that exist among them as well as explaining

the level of changes that took place in the dependent variables for a given level of changes in the independent variables. It can also be used in making predictions.

3.6 Variable Definition and Measurement

Dividend policy is the dependent variable for this study and it is proxy with dividend per Share (DPS), while the independent variables used for the study are: Profitability (PROF), Leverage (LEVR), Firm Size (FSZ), Firm Growth (FGR), Asset Tangibility (AST), Firm Age (FAGE), Cash Flow (CAFL), and Corporate Tax (CTAX).

Table 3.1.1: Variable Definition and Measurement

Variable Acronym	Variable Name	Variable Measurement	Source
DPS	Dividend per Share	Ratio of cash dividend paid to number of outstanding shares for firm <i>I</i> in time <i>t</i> . $\times 10$.	Al Shabibi and Ramesh (2011), Adediran and Alade (2013).
CAFL	Cash Flow	FCF (Free Cash Flow) that is (cash flow from operations + (interest (1-tax rate) – capital expenditure)/total assets.	Drakes (2006), Yero and Shehu (2012)
FSZ	Firm Size	Natural logarithm of total assets	Al-Malkawi, Twairesh and Harery (2013), Uwuigbe, Jafaru and Ajayi (2012)
PROF	Profitability	Ratio of profit after tax to number of shares own by firm <i>I</i> in time <i>t</i> .	Juma'h and Olivares Pacheco (2008). Ajanthan (2013).
FGR	Firm Growth	Market value of total assets to book value of total assets.	Ebrahimi, Chaleshtori and Baghi (2011), Yero and Shehu (2012).
LEVR	Leverage	Ratio of total debt to total Assets for firm <i>i</i> in time <i>t</i> .	Ramachandran and Packkirisamy (2010), Uwuigbe (2013).
FAGE	Firm Age	The number of years a firm has been operating since incorporation.	Nnadi, Wogboroma and Kabel (2013), Al-Malkawi (2008).
CTAX	Corporate Tax	Ratio of corporate tax to earnings before tax.	Anil and Kapoor (2008), Gill, Biger and Tibrewala (2010).
AST	Asset Tangibility	Ratio of total fixed assets to total assets.	Chen and Dhiensiri (2009), Mafro-Yiadom and Agyei (2011).

Source: Compiled by the author from various literatures.

3.7 Model Specification

In line with the above defined variables, the Linear Multiple Regression Model for this study is presented as follows;

$$DPO_{it} = \beta_0 + \beta_1 PROF_{it} + \beta_2 LEVR_{it} + \beta_3 FGR_{it} + \beta_4 AST_{it} + \beta_5 FAGE_{it} + \beta_6 CAFL_{it} + \beta_7 FSZ_{it} + \beta_8 CTAX_{it} + \epsilon_{it}$$

Where:

DPS_{it} = Dividend per Share for firm i at a period

β_0 = Intercept

$\beta_{1,2,\dots,8}$ = Coefficients of the independent variables

$PROF$ = Profitability for firm i at a period

$LEVR$ = Leverage for firm i at a period

FGR = Firm Growth for firm i at a period

AST = Asset Tangibility for firm i at a period

$FAGE$ = Firm Age for firm i at a period

$CAFL$ = Cash Flow for firm i at a period

FSZ = Firm Size for firm i at a period

$CTAX$ = Corporate Tax for firm i at a period.

ϵ_{it} = Error term.

3.8 Summary

The chapter has discussed the research design as correlational in nature. The research design selected is guided by the objectives of the study. The sample of the study is suitably selected. Out of thirteen (13) firms that make up the population of the study, eight (8) firms are selected as the sample size by adopting filtering process

For the purpose of data analysis, data are extracted from the published financial statement as contained in the annual reports of selected food and beverages firms and fixed effect multiple regression techniques is employed. The data extracted include; earnings per share, total assets, free cash flow, total liabilities, net income, profit after cash, cash dividend, common equity, net profit before tax, sales, and corporate tax.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

Data collected for the research hypotheses are presented interpreted and analyzed in this chapter, in order to achieve the set objectives. Tests for multi-collinearity and heteroskedasticity are also carried out as well as result of multiple regressions revealed. Moreover, the discussion of findings, test of hypotheses, policy implications of findings and summary are embedded in this chapter.

4.2 Data presentation

Descriptive statistics, correlation coefficients and robustness test, are presented in this section. The presentation reveals the fundamental features of the data, the relationships between all variables included in the regression model as well as the reliability of the findings. The presented results are interpreted afterwards, and analyzed. Finally, the regression output that tests all the eight hypotheses is presented. The detailed results are embedded in the appendix.

4.3 Descriptive Statistics

This reflects the properties of the set of data used in the research and it provides insight into the nature of data and gives a room for further analyses.

Table 4.3.1: Descriptive Statistics of Variables

Variables	Mean	Standard Dev.	Minimum	Maximum
Dps	16.81	31.61	0	126
Cafl	0.20	1.76	-8.50	8.84
Fsz	9.90	0.64	8.00	10.94
Prof	2.96	4.79	-4.13	20.81
Fgr	5.08	4.80	-2.23	19.32
Levr	0.61	0.18	0.27	1.12
Ctax	0.43	2.04	-1.55	16.32
Fage	42.63	17.26	7	79
Ast	0.51	0.23	0.08	0.93

Source: descriptive statistics from STATA 11.0

From table 4.3.1 DPS has a mean of 16.81, a standard deviation of 31.61 with a minimum and maximum value of 0 and maximum value of 126 respectively. The mean of 16.81 shows that while some firms pay high dividend others pay very low or no dividend at all. Also, the standard deviation is low implying that the data of DPS are not far spread across the mean while the minimum value of 0 shows that some firms paid no dividend during some years within the sample period.

CAFL has a mean of 0.20, standard deviation of 1.76, minimum of -8.50 and maximum of 8.84. The standard deviation reveals that cash flow values for food and beverage firms are not wide spread away from the mean which means that the volume of cash moving in and out of the business for food and beverage firms are closely related. Having a minimum of -8.50 and a

maximum of 8.84 indicates a negative cash flow from some food and beverages firms and that their cash outflow is higher than their cash inflow.

FSZ has an average of 9.90, standard deviation of 0.64, a minimum and maximum value of 8 and 10.94 respectively. The standard deviation shows that the value of firm size is closely clustered around the mean, implying that food and beverages firms operate around the same firm size. The closeness around the mean is further confirmed by the range between the minimum and maximum of 8 and 10.94 implying that Nigerian food and beverages firms do not vary widely in the value of their total assets.

PROF has an average value of 2.96, standard deviation of 4.79 with a minimum of -4.13 and maximum of 20.81 correspondingly. The standard deviation reveals that the food and beverages firms vary a great deal in their earnings ability. It means that values of earnings spread widely away from the mean. The negative minimum value indicates that some firms are operating at a loss while the maximum value equally indicates that some firms are operating at high profit and also the mean value which is small shows that most food and beverage firms are either making little profit or incurring losses.

FGR has a mean of 5.08, standard deviation of 4.80 with a minimum and maximum of -2.23 and 19.32 respectively. Firm growth which is arrived at from the ratio of market value of total assets to book value of total assets seems to be clustered tightly around the mean and implies that firms are operating at a close growth rate.

LEVR has an average of 0.61, standard deviation of 0.18 with a minimum of 0.27 and maximum of 1.12. Averagely, the food and beverages firms operate on a debt ratio of 61 percent which means the businesses are more finance with debt. The standard deviation is low and thereby

implies that firm's debt ratios are clustered around the mean but the minimum show that there are low debt ratios.

FAGE has a mean of 42.63, standard deviation of 17.26 with a minimum and maximum of 7 and 79 respectively implying that almost half of the firms got incorporated at almost the same period. Also, the minimum of 7 means that some firms have been operating for 7 years, while the maximum of 79 means that some firms have been operating for 79 years. CTAX has a mean of 0.43, standard deviation of 2.04 with a minimum and maximum of -1.55 and 16.32 respectively.

AST has a mean of 0.51, standard deviation of 0.23, with a minimum and maximum of 0.08 and 0.93 correspondingly. The percentage of fixed asset to total asset is reflected at an average of 51 per cent for food and beverages firms in Nigeria. The standard deviation shows that the asset tangibility ratios are closely clustered around the mean value. The minimum value shows a firm with 8 percent tangible asset while the maximum shows a firm with 93 percent tangible asset which is quite unexpected for food and beverages firms.

4.3.2 Correlation Matrix

This section seeks to establish relationships that exist among both the dependent and independent variables of the research.

Table 4.3.2: Correlation Matrix

	Dps	Cafl	Fsz	Prof	Fgr	Levr	Ctax	Fage	Ast
Dps	1								
Cafl	0.08	1							
Fsz	0.46	-0.09	1						
Prof	0.80	0.04	0.42	1					
Fgr	0.82	0.09	0.43	0.58	1				
Levr	0.18	0.22	-0.10	0.07	0.14	1			
Ctax	-0.03	-0.01	-0.05	-0.04	-0.11	-0.15	1		
Fage	0.11	-0.19	0.13	-0.08	0.17	0.07	0.21	1	
Ast	-0.01	-0.33	0.07	0.12	-0.08	-0.20	0.13	0.09	1

Source: Correlation matrix from STATA 11.0

From the table 4.3.2, it is observed that DPS has a positive relationship with cash flow at 0.08 which means that the cash inflow and outflow has a minimum effect on DPS. It is quite contrary to literal view where by the decision to pay dividend should largely depend on the cash present for a firm at a point in time. Also, the size of a firm relates to DPS positively at 48 per cent and as such insinuates that the larger the total assets of the food and beverages firms in Nigeria, the higher the chances of paying dividend. Moreover, DPS and PROF are positively related at 80 percent which implies that the higher the profitability of a firm, the higher the chance of dividend payout. It means that for firms to be able to pay dividend it must be profit making, it is however a normal expectation since dividends are primarily paid out of the profits made by a firm.

DPS has a positive relationship with FGR and LEVR at 0.82 and 0.18, while it has negative relationship with CTAX and AST at -0.03 and -0.01 respectively. The growth of firms which is

based on the ratio of market value of total assets to the book value of total assets has a high positive influence on dividend payout ratio. This stresses on the fact that when the market value of a firm's assets is high, it sends a good signal to invest with the firm, leaving the firm with enough fund to carry out their business activities effectively and make profits and at the same time pay dividend to their shareholders. The positive relationship between leverage and dividend policy should be expected since firms borrow to expand their investment opportunities with the aim of maximizing shareholders' wealth. The negative relationship between corporate tax and dividend policy suggests that decrease in corporate tax can lead to an increase in dividend payment. Since dividends are paid primarily from profits made by firms, and corporate tax is being deducted from profits made as well, when the percentage of corporate tax to be deducted from profits is reduced, it leaves firms with a greater portion of profits and at the same time increases the possibility of paying dividends. However, asset tangibility has a little negative influence on DPS because the tangible asset may not promote profitability if not properly utilized. Contrary to our expectation, FAGE has a positive relationship with DPS at 0.11. The result shows that with an increase in the age of a firm, the dividend payout averagely increases in the Nigerian food and beverage firms. This is expected because as firms advance in age, their expertise advantage helps them to manage their business profitably and pay dividends to their shareholders as well, they also have less investment opportunities to finance which leaves them with enough cash to pay out as dividends.

On the aspect of cash flow it is positively related to PROF, FGR, and LEVR at 0.04 and 0.09, and 0.22. This reveals that profitability as well as firm growth and leverage increases with increase in cash flow. When there is enough cash available, the possibility of making profits is higher since the firm would not be constrained from effective performance due to lack of cash.

Also, leverage relieves the firm from stress on internally generated funds and increases the volume of cash moving in and out of the business. Moreover, cash flow has negative relationship with firm size, corporate tax, firm age and asset tangibility at the values of -0.09, -0.01, -0.19 and -0.33. When a firm has a sound cash flow, it reduces the need of expanding the fixed assets of the firm to boost their collateral capacity because there is always enough cash to invest with. On the other hand, when the total assets of the firm are increased, cash flow reduces since more funds will be needed to finance the assets. It is expected that as firms advance in age, their investment opportunities expand to a point that they would no longer want to invest but rather put more concentration on maintaining the financed projects, thereby enhancing sound cash flow system, but it is revealed otherwise here. As corporate tax is paid from profits, it reduces the cash available for the firm.

Firm size has positive relationship with PROF and FGR at 0.42 and 0.43, which means that the size of a firm averagely determines the earnings of the food and beverages firms. Also, FAGE and AST relate positively to firm size which is measured as the natural logarithm of total assets. This relationship implies that as a firm progress in age, the volume of assets it acquires continues to increase. Also the more fixed assets it acquires, the more its total assets because the fixed assets automatically add to the total assets. Moreover, leverage and corporate tax relate negatively with firm size.

PROF has a low negative relationship with firm age and corporate tax. This is expected because corporate tax is first deducted from profit before accounting for earnings per share which is the proxy for profitability. Also, leverage, asset tangibility and firm growth are related positively to PROF at a very low rate.

Firm growth, tax and asset tangibility have a negative relationship between them, while firm growth still relates positively with leverage and firm age. Leverage also have a positive relationship with firm age at a low rate meaning that it has a little influence on leverage while it is negatively correlated to Ctax and asset tangibility.

Ctax has a 21 per cent influence on Fage, and also relates positively with assets tangibility. That is, the age of a firm determines how much tax is paid. Fage has a very weak positive correlation with asset tangibility which implies that as firms advance in age the possibility of paying dividend increases, though the relationship is weak.

4.4 Robustness Test

The test for multi-collinearity is one of the robustness test carried out. It consists of Variance Inflation Factor (VIF) and Tolerance Value (TV) which are used to check for excess correlation among variables and also to ensure the findings of the study are robust to the model requirements.

Table 4.4.1: Multi-collinearity Test

Variable	VIF	TV
Prof	2.06	0.49
Fgr	1.77	0.57
Fsz	1.46	0.69
Fage	1.39	0.72
Ast	1.23	0.81
CafI	1.22	0.82
Levr	1.17	0.86
Ctax	1.10	0.91
Mean VIF	1.42	

Source: Output of VIF test from STATA 11.0

Table 4.3.3 reveals that there is absence of multi-collinearity among the variables used in this research. This is proven by the fact that the values for VIF are less than 10 and the TV values are more than 0.1. According to Gujarati (2004), multi-collinearity is detected when the VIF values are more than 10 and the TV values less than 0.1.

Heteroskedasticity Test

After carrying out the Hausman specification test in order to decide among the fixed and random effect model which is suitable for interpretation, the Hausman specification test revealed a chi2 of 1557.47 and a prob<chi of 0.0000. The F-statistics is found to be significant and for that, the null hypothesis that the variables are exogenous is rejected and this makes the fixed effect more

suitable for data interpretation. On the other hand, where it is not significant random effect regression becomes more suitable.

However, when the fixed effect regression result is subjected to heteroskedasticity test employing the Breusch–Pagan or Cook-Weisberg test for heteroskedasticity, the result reveals Chi2 of 2809.86 with p-value of 0.0000. The result is significant at 5% revealing the presence of heteroskedasticity. The null hypothesis therefore indicates that the variance of residual is not constant.

4.5 Presentation of Fixed Effect Robust Regression Result and Discussion on Findings

Owing to the output of Breusch–Pagan or Cook-Weisberg test for heteroskedasticity which revealed presence of heteroscedasticity, Fixed Effect Robust regression is found to be more suitable for this study. The Fixed Effect Robust regression automatically corrects for heteroscedasticity (Anderson, 2008; Maronna, Malsaa, and Yohei, 2006).

Table 4.5.1: Fixed Effect Robust Regression Result

Dps	Coefficient	Standard error	T	p>/t/
Constant	-151.51	71.14	-2.13	0.071
Cafl	-0.29	0.36	-0.82	0.440
Fsz	4.06	3.89	1.05	0.331
Prof	1.29	0.57	2.25	0.059
Fgr	0.24	0.25	0.94	0.379
Levr	8.04	9.45	0.85	0.423
Fage	72.63	25.39	2.86	0.024**
Ctax	0.01	0.10	0.14	0.889
Ast	10.67	7.68	1.39	0.207
R-squared	0.10			
F-stat	2.86			
Prob>F	0.0110**			

Source: Fixed effect regression output from STATA 11.0 (* and ** represent significant levels at 1% and 5% respectively).

Table 4.5.1 above shows the summary of the estimated regression model. The regression equation is thus:

$$DPS = -151.51 - 0.29CAFL + 4.06FSZ + 1.29PROF + 0.24FGR + 8.04LEVR + 72.63FAGE - 0.01CTAX + 10.67AST$$

Cash flow and Dividend Policy

Cash flow has a correlation coefficient of -0.29 indicating that I Naira increase in cash flow leads to a 29 Kobo decrease in dividend payout. The negative relationship between cash flow and dividend payout is quite unexpected since dividends in most cases are paid in cash. However, the t-value of -0.82 and p value of 0.440 shows that even though cash flow and dividend policy of food and beverages firms in Nigeria share a negative relationship between them, the relationship is not significant. The study confirms the findings of Gill, Biger and Tibewala (2010), Samuel and Gbegi (2010) and Mohammad et al (2014) who find insignificant relationship between cash flow and dividend policy, but contradicts the findings of Griffin (2010), Abbasi and Ebrahimzadeh (2013), Kato, Lowenstein, and Tsay (2002), Adelegan (2003), Hafaez and Attiya (2008), and Nyor and Adejuwon (2013) who find that cash flow has significant impact on the dividend policy of firms.

Firm Size and Dividend Policy

Firm size and dividend policy has a correlation coefficient of 4.06, this means that an increase in the total asset of the food and beverage firms, leads to increase in DPS. The t-value is 1.05 insignificant at 5 percent thereby indicating that firm size proxied by natural logarithm of total assets of firms is not a determinant of DPS. The size of a firm gives a picture of how big or small a firm is. Bigger firms are shielded from their inefficiencies and associated with a very good reputation by the huge amount of assets they own which grants them access to the capital market to acquire debt at a cheaper rate and therefore would be relieved of stress on their internally generated fund and at the same time have enough cash to pay dividend. However, they have more obligations when it comes to financing their assets owing to the huge amount of assets they possess which requires huge amount of money and in the long run may not have enough cash to pay dividend. This therefore could be the reason why the relationship between firm size and

dividend policy of Nigerian food and beverages firms is not significant. The findings are in line with Ramachandran and Packkirisamy (2010), Musa (2009) and Adelegan (2003) who find that firm size has no significant impact on the dividend policy of firms, while it contradicts Uwuigbe et al (2012), Hashemi and Kashani Zadeh (2012), Amalkawi et al (2013), Kowalewski et al (2007), El Essa et al (2012), and Salehnezhad (2013) who find otherwise.

Corporate Profitability and Dividend Policy

PROF is related to DPS at 1.29 with t-value of 2.25 and p-value of 0.059. This implies that for every 1 Naira increase in earnings, there is a corresponding 1.29 Naira increase in DPS. The t-value of 2.25 insignificant at 5% shows that the relationship between profitability and dividend policy of food and beverages firms in Nigeria is not significant. This disputes the normal belief that the more profitable a firm is, the higher the possibility of paying dividends. It could be that firms pay more attention to reinvesting any amount made as profits for assets expansion than distributing them as dividends. And for that reason, when firms make reasonable amount of profits, they prefer to retain the earnings for future investment purposes thereby avoiding the risks associated with external financing, but pay more attention to dividend payment when less profits are made, since they already have enough earnings retained to finance investment opportunities. This policy will help to maximize shareholders wealth in the long with minimal level of risk. Majority of the findings in the literatures reviewed under this study contradicts this result such as; Imran (2011), Ajanthan (2013), Juma'h & Olivares Pacheco (2012), Maniagi et al (2013), Almalkawi (2007) and Adediran & Alade (2013). The vast contradiction may be due to techniques of analyses they employ which are different from ours. For instance, Imran (2011), and Almalkawi (2007) apply Random effect regression techniques while Ajanthan (2013), Juma'h et al (2012), Maniagi et al (2013) and Adediran & Alade (2013) use Normal OLS

regression techniques. If we should go by our Normal OLS or Random effect model, we would have obtained the same result as theirs, but after subjecting our OLS regression results to Hausman specification test, we find out that fixed effect regression model is fit for analyzing our data. However, the findings are in line with Zaman (2013), Rafique (2012) and Mehta (2012) who found an insignificant relationship between profitability and dividend policy.

Firm Growth and Dividend Policy

Firm growth has a positive insignificant impact on DPS with a coefficient of 0.24, t-value of 0.94 and p-value of 0.379. This results show that firms do not base their decision to pay dividend on the level of growth a firm has achieved. This finding conforms with Rafique (2012), Oladipupo and Okafor (2013), Gul et al (2012), Alzomaia and Al-Khadhiri (2013), Gupta and Banga (2010) who find insignificant relationship between firm growth and dividend policy, while it contradicts Kang (2009) who argue that at any point in time, the more rapid the rate at which a firm is growing, the greater its need for internal funds and hence, the more likely the firm is to retain earnings rather than paying them out as dividends. It is also inconsistent with Kang (2010) and Khan et al (2011).

Leverage and Dividend Policy

Leverage has a positive but insignificant impact on DPS with a coefficient of 8.04, t- value of 0.85 and p-value of 0.423. This result indicates that debt to asset ratio is not a determinant of dividend policy that is, whether a firm is highly levered or lowly levered is not what determines dividend payment. This may be due to the fact that firms have the obligation of settling the fixed interest amount of debt before paying dividend to their shareholders so, whether a firm realized

profit or not, they must settle their debt and being highly or lowly levered does not guarantee profitability. Therefore, for a highly levered firm, the possibility of paying dividend is slimmer because they have a greater fixed amount of debt to settle than a lower lever levered firm who has less obligation in terms of interest repayment. This finding conforms with the findings of Emamalizadeh et al (2012) and Khan et al (2013), but contradicts the findings of Asif, Rasool and Kamal (2011), Alam and Hossain (2012), Malik et al (2013), Javed (2012), Uwuigbe (2013), Nnadi et al (2013), Ogbulu and Arewa (2010), Santhi and Lee (2011) and Ramachandran and Packkirisamy (2010) who find significant relationship between leverage and dividend policy.

Firm age and Dividend Policy

Firm age has a highly positive significant impact of DPS as its coefficient is 72.63, t-value is 2.86 and p-value is 0.024. It means that advancement in the age of a firm has a substantial bearing on the dividend payment decisions of food and beverages firm in Nigeria. As firms advance in age, they have less investment opportunity to finance relieving them from the stress associated with external financing but rather focusing on making more profits that enables dividend payment. Firms that have advanced in age are more or less matured firms who have gained ample experience regarding the business and therefore can easily run the business effectively and profitably as well. This finding confirms the findings of Al Malkawi (2008), Badu (2013), Nnadi et al (2013), who find that as a firm increases age they have higher chances of paying dividend. On the other hand, Marfo-Yiadom and Agyei (2011) finds that as firms advance in age it has lower chances of paying dividend however, the negative relationship is significant.

Tax and Dividend Policy

From the results, corporate tax has a very low positive and insignificant association with dividend policy having a coefficient of 0.01 and t-value of 0.14, and p-value of 0.889. This implies that a 1 Naira increase in corporate tax, holding other variables constant, results in 1 kobo increase in dividend policy. However, the relationship is not significant as revealed by the p-value. The insignificant impact of tax on DPS implies that the decision to pay dividend does not depend on the amount of corporate tax paid. The positive relationship affirms partly the normal belief that as tax increases, dividend payment decreases since corporate tax is charged on profits made by firms, but finally refutes the belief since the relationship is not significant. This confirms the findings of Anil and Kapoor (2008), Gill et al (2010) and Rafique (2012) who find that corporate tax does not have significant impact on dividend policy, while it contradicts the findings of Arif and Akbar (2013) who find tax to be one of the major determinants of dividend policy.

Asset Tangibility and Dividend Policy

Asset tangibility has positive but not significant impact on DPS by having a correlation coefficient of 10.67, t-value of 1.39 and p-value of 0.207. An increase in tangible asset by 1 Naira, leads to 10.67 Naira increase in dividend payout though not statistically significant. Asset tangibility is therefore not a determinant of dividend policy. From the finding, it can be deduced that even though firms who have a greater percentage of their total assets as fixed assets have high collateral capacity which makes it easier to raise fund externally, reducing stress on internally generated funds and having a greater likelihood to pay dividends, the stress and risk associated with debt settlement has rendered collateral capacity meaningless when it comes to dividend payment. The finding of the study is in line with Saeed et al (2013), Chen and Dhiensiri (2009), Foroghi et al (2011) and Al Shabibi and Ramesh (2011). Who find that asset tangibility

does not impact on dividend policy significantly, but contradicts Marfo et al (2011), Al-Shubiri (2011), Vo and Nguyen (2014) and Abbasi and Ebrahimzadeh (2013) who find that asset tangibility is a significant determinant of dividend policy.

Summary of Major Findings

The R-squared of the regression shows 0.10, F-statistics of 2.86 and Prob.> F is 0.0110. The result shows that cash flow, firm size, profitability, firm growth, leverage, firm age, corporate tax and asset tangibility explain 10 percent variation in dividend payout of the food and beverages firms in Nigeria significant at 5%.

Checking from the above result, it is realized that only age is the significant determinant of dividend policy while cash flow, firm size, profitability firm growth, leverage, tax and asset tangibility of food and beverages firms are not determinants of dividend policy. The number of significant variables can give an understanding of the very low overall relationship. However, the F-statistics significant at 1% proves that the model is fit.

4.6 Policy Implications of Research Findings

Nigeria being a developing country has not reached the level where majority of the investors prefer capital gains to dividends. The investors prefer dividends to capital gains except in occasion where share prices doubled or tripled so that they make so much gain from the sale of their shares. The findings of this study will stand therefore as a reference point to shareholders in deciding which firm to invest in after proper comparison is made between firms' age. Regulatory bodies are also kept abreast with the determining factors which give them a sense of direction in ratifying their regulations

Secondly, dividend decisions adopted by food and beverages firms have varied over time irrespective of uniqueness in the activities and standards of the firms. Investors are therefore unnecessarily tensed and cautious when it comes to deciding which firm to invest with. The findings of this study will thereby assist the board of directors of food and beverages firms to adopt the same dividend policy since the factors to consider in making dividend decisions have been established in this study. Also shareholders will also be aware of when to expect dividend and when not to, since the factors that determine dividend decisions are made known to them as well as the dividend policies of firms.

Thirdly, the findings of this study have provided insight into the explanatory variables that have significant impact in originating the dividend decisions of Nigerian food and beverages firms. These findings will therefore assist the board of directors of food and beverages firms in setting up a dividend policy that can be satisfactory to the various stakeholders in the firms.

Finally, the findings of the study have revealed that leverage has no significant impact on the dividend policy of firms. This calls for regulatory body to regulate the leverage ratios of firm by setting the possible lowest minimal ratio that should not be neglected by firms. This will make management intensify their effort in carrying out the business activities effectively and profitably instead of relying on borrowed funds and at the long run end up battling with repaying their debt with no records of profits as profits that necessitates dividend payment.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The inception of joint stock companies has made the goal and objective of firms to advance from profit maximization to wealth maximization in order to ensure the survival of the business in the long run and at the same time protecting shareholders' interest, thereby making dividend policy an essential issue in the affairs of a firm. The decisions on the amount to be retained by management for future investments and the amount to be distributed as dividend to shareholders is a very difficult task being carried out by management since both management's need for fund and shareholders need for dividend have to be considered in order to strike a balance between both so that none will be neglected at the expense of the other. Some factors are thereby relevant in making such decisions.

Over the years, the number of factors studied by Nigerian finance researchers as determinants of dividend policy continued to increase though most of the studies conducted so far studied very few different factors, making it difficult to comprehend the joint impact of the different factors on dividend decisions of firms. This study attempts to comprehend the joint impact of different factors that have bearing in determining dividend policy of firms by examining as many as eight financial variables.

Relevant literatures are reviewed in an attempt to realize the objective of the study. Literatures that are directly related to the research topic are reviewed under relevant concepts such as; dividend, dividend policy, profitability, liquidity, tax, asset tangibility, and leverage for advancement of knowledge in the area of study. An appraisal is done on empirical studies carried out by previous researchers in the field of study, some of which arrived at the same findings,

while some show conflicting results. Theories that have bearing on the research are also reviewed. The theories are M &M irrelevance theorem, Bird in the hand theory, and Agency cost theory.

The study utilizes secondary data covering DPS, EPS, DAR, TAX, AST, FSZ, FGR, AGE, and CAFL, sourced from published annual reports of sampled firms for the period 2004 to 2013. Correlational research design is employed. Panel data multiple regression analyses based on fixed effect robust regression model are employed in analyzing the panel data collected for the study. The fitness of the model is ascertained by using the Breusch-pagan/Cook-Weisberg test for heteroskedasticity to check for the presence of constant variance, and VIF test for multicollinearity.

The study then finds that profitability and firm age have significant impact on dividend payout and thus, are determinants of dividend policy while Cash flow, leverage, firm size, firm growth, tax and asset tangibility have no significant impact on dividend payout.

5.2 Conclusions

Ascertaining empirically the factors that have bearing on the dividend decisions of food and beverages firms listed on Nigerian Stock Exchange is of great importance to both management and shareholders. Several factors have been documented by previous studies as determinants of dividend policy with variations in the findings of individual studies. The variations may be as a result of differences in the methodology adopted by individual studies as well as contrasting domains. Based on the findings of the study, we therefore conclude that:

- i. Cash flow does not impact significantly on the dividend policy of listed food and beverages firms in Nigeria and for that reason is not a determinant of dividend policy.

- This suggests that the volume of cash moving into and out of a business does not have any connection with the dividend decisions of firms. However, this is contrary to our expectation because it is expected that firms with sound cash flow have the possibility of paying dividend as cash dividend is paid in cash.
- ii. Firm size is not a determinant of dividend policy as it has no significant impact on the dividend policy of listed food and beverages firms in Nigeria. This finding is dissimilar to our expectation as bigger firms have larger assets which gives them the concession of raising fund in the capital market at a cheaper rate, thereby increasing their possibility of paying dividend since the stress on internally generated funds is reduced.
 - iii. Profitability is not a determinant of dividend policy since it does not have significant impact on the dividend policy of firms. The finding refutes the notion that the more profitable a firm is, the higher the possibility of paying dividend. This could be because firms prefer to reinvest their earnings instead of paying it out as dividends.
 - iv. Leverage impacts positively but insignificantly on the dividend policy of Nigerian food and beverages firms and is therefore not a determinant of dividend policy. This finding is contrary to our expectation based on the perception that highly levered firms pay higher dividends because leverage reduces tension on retained earnings, thus promoting dividend payment. The reason for the unanticipated result could be due to the risk associated with leverage as the interest amount of debt has to be settled before dividend can be paid.
 - v. Firm growth has no bearing on the dividend policy of listed food and beverages firms in Nigeria as the finding revealed an insignificant relationship between firm growth

- and dividend policy. This suggests that the ratio of a firm's market value of total assets to book value of total assets plays no role in the dividend decision of firms.
- vi. The age of a firm measured by the number of years a firm has been in operation since incorporation is a core determinant of dividend policy since it impacts significantly on the dividend decisions of firms at 1 percent level of significance and a very high coefficient of 65.77. This finding confirms the notion that mature firms have the tendency of paying higher dividends as they have less investment opportunities to finance. As firms advance in age, they gain more expertise knowledge that helps them run the business effectively and profitably against all odds and have the ability to pay dividends to their shareholders as well.
 - vii. Corporate tax is not a determinant of dividend policy as a result of the insignificant impact it has on the dividend policy of listed food and beverages firms in Nigeria.
 - viii. Asset tangibility is not a determinant of dividend policy as it has no significant relationship with the dividend policy of firms listed on Nigeria stock exchange. This does not tally with the notion that the higher the collateral capacity of a firm, the higher the likelihood to pay dividends. Whether a firm has the greater portion of its total assets as fixed assets or not, does not determine dividend payment since leverage which the fixed assets is used to secure does not have a bearing on dividend policy as well. Profitability and firm age are therefore the determinants of dividend policy.

5.3 Recommendations

In line with the findings of this research work, the following recommendations are provided:

- i. Since firm age is the major determinant of dividend policy in this study, It is recommended to investors who prefer present dividend to future capital gain to invest with mature firms that have less investment opportunities to finance and thereby avails them the possibility of paying dividend as they would be left with enough cash to pay out as dividends.
- ii. Even though asset tangibility does not impact significantly on the dividend decisions of firms, food and beverages firms engage them in business. Nigerian government, ranging from federal to local level should assist the management of food and beverages firms by subsidizing the prices of advanced machines and equipment needed by firms, thereby enabling them to carry out their business activities efficiently and effectively.
- iii. Given that leverage does not have significant impact on the dividend policy of firms, Management of Food and beverages firms should consider leverage on the lowest side instead of battling with repayment of borrowed funds with no records of positive earnings and in the long run not be able to pay dividends to its shareholders.

5.4 Limitations of the Study

- i. The study focuses only on food and beverages firms listed on Nigeria Stock Exchange whereas there are many food and beverages firms in Nigeria that are not listed in the stock exchange. Inclusion of those unlisted firms would have increased the sample size of the study as well as giving more insight, however, findings of this study is not affected in any way but are only limited to listed food and beverages firms.

- ii. Some of the materials and data needed to make the work richer are not within our reach since some of them are restrained from the general public, while some can only be released with monetary aids beyond our capacity.
- iii. Studies of this nature are bound to experience variable omission bias. In as much as the study examines as much as eight financial variables, there are several other variables examined in other studies that are not included in this study. However, this has not in any way questioned the integrity of the results since it is taken care of by several regression diagnostics.

REFERENCES

- Abbasi, E. and Ebrahimzadeh (2013). Dividend Policy, Cash Flow, and Investment in Tehran Stock Exchange. *African Journal of Business Management*. 7(39): 4128-4138.
- Adams, B., Gritta, R.D. and Adrangi, B. (2005). An Analysis of the Effects of Operating and Financial Leverage on the Major U.S. Air Carriers' Rates of Return: 1990-2003 K.Button and D. Hensler, editors. Handbook of Transport Strategy, Policy and Institutions, Vol. VI, 1sted.(2005). 547-560. Elsevier Press and the World Conference on Transportation Research.
- Adelegan, O. (2003). An Empirical Analysis of the Relationship between Cash Flow and Dividend Changes in Nigeria. *R & D Management*. 15(1): 35-49.
- Adediran, S.A. and Alade, S.O. (2013). Dividend Policy and Corporate Performance in Nigeria. *American Journal of Social and Management Sciences*, 4(2): 41-77.
- Adelegan, O.J. (2000). The Impact of Growth Prospect, Leverage and Firm Size On Dividend Behaviour of Corporate Firms in Nigeria. Retrieved from: www.csae.ox.ac.uk/conference/2000OIA/pdfpapers/adelegan.PDF
- Adelegan, O. (2003). The Impact of Growth Prospect, Leverage and Firm Size on Dividend Behaviour of Corporate Firms in Nigeria. *The centre for Econometric and Allied Research UI, Nigeria Rev.* 54(3): 272.
- Adelegan, O. (2003). An Empirical Analysis of the Relationship between Cash Flow and Dividend Changes in Nigeria. *R & D Management*. 15(1): 35-49.
- Ahmed, H. and Javid, A. Y. (2009), Determinants of Dividend Policy in Pakistan. *International Research Journal of Finance and Economics*. 29: 110-125.
- Ajanthan, A. (2013). The Relationship Between Dividend Policy and Firm Profitability: A Study of Listed Hotels and Restaurant Companies in Sri Lanka. *International Journal Scientific and Research Publications*. 3(6): 2250-3153.
- Alam, Z. and Hossain, M.E. (2012). Dividend Policy: A comparative Study of U.K and Bangladesh Based Companies. *IOSR Journal of Business and Management*. 1(1): 56-66.
- Al-Deehani, T.M. (2003). Determinants of Dividend Policy: The Case of Kuwait. *Journal of Economic & Administrative Sciences*. 19(2): 59-76.
- Al-Kuwari, D. (2009). Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of GCC Countries. *Global Economy & Finance Journal*, 2(2): 38-63.
- Al-Malkawi, H.N. (2007). Determinants of Corporate Dividend Policy in Jordan: An application of the Tobit Model. *Journal of Economic & Administrative Sciences*, 23(2): 44-70.

- Al-Malkawi, H.N. (2008). Factors Influencing Dividend Decision: Evidence from Jordanian Panel Data. *International Journal of Business*. 13(2): 1083-4346.
- Al-Malkawi, H. N., Twairesh, A.E. and Harery, K. (2013). Determinants of The Likelihood to Pay Dividends: Evidence from Saudi Arabia. *Journal of American Science*, 9(12): 518-528.
- Al-Malkawi, H.N., Rafferly, M. and Pillai, R. (2010). Dividend Policy: A Review of Theories and Empirical Evidence. *International Bulletin of Business Administration*, 9: 171-200'
- Al-Najjar, B. and Hussainey, K. (2009). The Association between Dividend Payout and Outside Directorships. *Journal of Applied Accounting Research*, 10(1): 4-19.
- Al Shabibi, B.K and Ramesh, G. (2011). An Empirical Study on the Determinants of Dividend Policy in the UK. *International Research Journal of finance and Economics*. 80: 106-120.
- Al-Shubiri (2011). Determinants of Changes in Dividend Policy: Evidence from the Amman Stock Exchange. Amman Arab University Jordan College of Business, Department of Finance and Banking Groppelli and Nikbakht. Finance 5th Ed
- Alzomaia, T.S. and Al-Khadhiri, A. (2013). Determination of Dividend Policy: The Evidence from Saudi Arabia. *International Journal of Business and Social Science*. 4 (1): 181-192.
- Amidu, M. and Abor, J. (2006). Determinants of Dividend Payout Ratios in Ghana. *Journal of Risk Finance*, 7(2): 136-145.
- Anderson, R. (2008). Modern Methods for Robust Regression. Sage University Paper Series on Quantitative Applications in the Social Sciences. 7-152.
- Anil, K. and Kapoor, S. (2008). Determinants of Dividend Payout Ratios: A Study of Indian Information Technology Sector. *Int Res J Finance Econs*, 15: 1-9.
- Arif, A and Akbar, F. (2013). Determinants of Dividend Policy: A Sectoral Analysis from Pakistan. *International Journal of Business and Behavioural Science*, 3 (9): 16-33.
- Asif, A, Rasool, W and Kamal, Y. (2011). Impact of financial leverage on dividend policy: Empirical evidence from Karachi Stock Exchange-listed companies. *African Journal of Business Management*, 5 (4): 1312-1324.
- Awdeh, A (2005) Domestic Banks and Foreign Banks' Profitability Differences and their Determinants. Case Business School, City of London.
- Badu, E.A. (2013). Determinants of Dividend Payout Policy of listed Financial Institutions in Ghana. *Research Journal of Finance and Accounting*, 4(7): 185-190.
- Baker, H.K, and Powell, G.E. (1999). How Corporate Managers view Dividend Policy. *Journal of Business Economics*. 38(2): 662-668.

- Baker, H.K and Farrelly, G.E (1988). Dividend Achievers: A Behavioural Look. *Akron Bus. Econ. Rev*, 19 (1): 115-127.
- Baker, H.K., Gall, E.F. and Edelman, R.B. (1985). A Survey of Management Views on Dividend Policy. *Financial Management*, 14: 181-190.
- Baker, H.K, and Powell, G.E. (1999). How Corporate Managers view Dividend Policy. *Journal of Business Economics*. 38(2): 662-668.
- Baker, C.A. (1978). Evaluation of Stock Dividend. *Harvard Business Review*. 9:101-122.
- Baker, H.K., Powell, G.E. and Veit, E.T. (2001). Factors Influencing Dividend Policy Decisions of NASDAQ Firms. *Financial Review*, 36: 111-117.
- Baker, M. and Wurgler, J. (2004). A Catering Theory of Dividends. *Journal of Finance*, 6(3): 70-74
- Black, F. (1976). The dividend puzzle. *Journal of Portfolio Management*, 2: 5-8.
- Bradley, M. Jarell, G. and Kim, E. H. (1984). On the existence of an optimal capital structure: theory and evidence. *Journal of Finance*, 39: 857-878.
- Brealey, R.A., Myers, S.C. and Marcus, A.J. (1999). Principles of Corporate Finance 4th edition. London. McGraw-Hill.
- Charitou, A, and Vafeas, N. (1998). The Association between Operating Cash flows and Dividend Changes: An Empirical Investigation. *Journal of Business Finance*, 25(4): 225.
- Chen, J. and Dhiensiri, N. (2009). Determinants of Dividend Policy: The Evidence from New Zealand. *International Research Journal of Finance and Economics*, 34: 18-28.
- Chukwu, U.C. (2002). Accounting & Finance Terminologies. Billgb Prints & Publishers, Amawbia, Nigeria. 1st Ed. pp. 1-250.
- Davies, T. and Pain, B. (2002). Business Accounting & Finance. Berkshire: McGrawHill, United Kingdom.
- Desai, M.A., Foley, C.F. and Hines, J.R. Jr. (2006a). The Demand for Tax Haven Operations. *Journal of Public Economics*, 90: 513-531.
- Desai, M.A., Foley, C.F. and Hines, J.R. Jr. (2006b). Do Tax Havens Divert Economic Activity? *Economics Letters*, 90: 219-224.
- Desai, M.A. Foley, C.F. and Hines, J.R. (2007). Dividend policy inside the multinational firm. *Financial Management* 36(1): 5-26.
- Deshmukh, S. (2003), Dividend Initiations and Asymmetric Information: A Hazard Model. *Financial Review*, 38: 351-368.

- Drakes, P. P. (2006), What is Free Cash Flow and how do I Calculate it. Lecture notes prepared for Florida Atlantic University.
- Doughty, M. (2000) *The Joy of Money*. London: Simon & Schuster Ltd
- Easterbrook, F. H. (1984). Two Agency Cost Explanations of Dividends. *American Economic Review*, 74: 650- 659
- Ebrahimi, M.,Chaleshtori, G. N. and Baghi, M. (2011). The Effect of Free Cash Flows, Growth Opportunities and Dividend-to-Market Value of Share Ratio on Auditing Fee: Evidence from Iranian Companies. International Conference on Humanities, Society and Culture IPEDR Vol.20 IACSIT Press, Singapore. .
- El Essa, M.S, Hameedat, M.M, Altaraireh, J.A, andNofal, M.A. (2012). Worthy Factors Affecting Dividend Policy Decision: An Empirical Study on Industrial Corporations Listed in Amman Stock Exchange. *Interdisciplinary Journal of Contemporary Research in Business*, 4(8): 614-622.
- Ellentuck, A.B. (2012). Determining Tax Consequences of Corporate Liquidation to theShareholders. Thomson Tax & Accounting.Forth Worth, Texas.
- Emamalizadeh, M. Ahmadi, M. and Pouyamanesh, J. (2013). Impact of Financial Leverage onDividend Policy at Tehran Stock Exchange; A Case Study of Food Industry. *African Journal of Business Management*, 7(34): 3287-3296.
- Eriotis, N. and Vasilou, D. (2003). Dividend Policy: An empirical Analysis of the Greek Market. *International Business and Economics Research Journal*, 3(3): 49-57.
- Fama E.F. and Babiak, H. (1968). Dividend Policy: An Empirical Analysis. *Journal of American Statistical Association*. 63 (324): 1132-116.
- Farrelly, G.E, Baker, K.H and Edelman, R.B (1986). Corporate Dividends: Views of the Policy Makers,*Akron Business and Economic Review*, 17 (4): 62-74.
- Foroghi, D., Karimi, F., and Momeni, Z. (2011). The Investigation Relationship of Dividend behaviour and Likelihood of Paying dividend with Financial Variables in Tehran Stock Exchange. *Interdisciplinary Journal of Contemporary Research In Business*,3(8): 390-397.
- Frankfurter, G.M. and Lane, W.R. (1992). The Rationality of Dividends. *International Review of Financial Analysis*,1: 115-129.
- Frankfurter, G.M.and Wood, B.G. (1997) The Evolution of Corporate Dividend Policy. *Journal of Financial Education*, 23: 16-32.
- Gill, A., Biger, N., and Tibrewala (2010). Determinants of Dividend Payout Ratios; Evidence fromUnited States. *The Open Business Journal* 3: 8-14.

- Gordon, M. (1962). The Savings, Investment and Valuation of a Corporation. *Review of Econs. and Stat*, 3: 37-51.
- Gordon, M.J. (1963). Optimal investment and financing policy. *Journal of Finance*, 18 (2): 264-72.
- Graeme. P. (2012). Capital Markets. (www. Moneyterms.co.uk/scrip-dividend/)
- Griffin, C.H. (2010). Liquidity and Dividend Policy: International Evidence. *International Business Research*, 3(3): 3-9.
- Gul, S. Munghal, S. Bukhari, S.A. and Shabir, N. (2012) "The Determinants of Dividend Policy: An Investigation of Pakistan Banking Industry. *European Journal of Business and Management*. 4(12): 1-5.
- Gupta, A. and Banga C. (2010). The Determinants of Corporate Dividend Policy. *Decision*, 47 (2): 64-77.
- Hafeez, A. and Attiya, Y.J. (2008). Dynamics and determinants of dividend policy in Pakistan: Evidence from Karachi Stock Exchange Non-financial listed firms. *Munich Personal RePEc Archive*, Retrieved online at <http://mpira.ub.uni-muenchen.de/37342/>.
- Hashemi, S.A, and Kashani Zadeh, F.Z (2012). Impact of Financial Leverage, Operating Leverage, & Size of Company on Dividend Policy (Case Study Of Iran. *Interdisciplinary Journal of Contemporary Research in Business*, 3(12): 264-270.
- Hassan, A, Tanveer M, Siddique M and Mudasar M (2013). Tax shield and its impact on corporate dividend policy: Evidence from Pakistan stock market. *Journal of business and economics*, 5(4): 71-82.
- Ho, H. (2003). Dividend Policies in Australia and Japan. *International Advances in Economic Research*, 9(2) 91-100.
- Hussainey, K. (2009), The Impact of Audit Quality on Earnings Predictability. *Managerial Auditing Journal*, 24(4): 340 -351.
- Imran .K. (2011). Determinants of Dividend Payout Policy: A Case of Pakistan Engineering Sector. *The Romanian Economic Journal*, 41: 47-60.
- Iyigwe, S.O. (2002). Research Methodology. Willy Rose and Appleseed Publishing Coy. Abakaliki, Nigeria. 2nd Ed. pp. 108-117.
- Javed, M.U. (2012). Impact of Financial Leverage on Dividend Policy: Case of Karachi Stock Exchange 30 Index. *Journal of Contemporary Issues in Business Research*, 1(1): 28-32.
- Jensen, M.C. and Meckling, W.H. (1976). Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3: 305-360.

- Jensen, G., Solberg, D. and Zorn, T. (1992). Simultaneous Determination of Insider Ownership, Debt and Dividend Policies. *Journal of Financial and Quantitative Analysis*, 27(2): 247-263.
- Juma'h, A.H. and Olivares Pacheco, C.J. (2008) The Financial Factors Influencing Cash Dividend Policy: A Sample of U.S. Manufacturing Companies. *Inter Metro Business Journal*. 4(2): 23-43.
- Kang B.S. (2004) Corporate Dividend Policy in Emerging Stock Market Countries: An Empirical Investigation at the Macro Level. *Asia-Pacific Journal of Financial Studies*, 33: 189-216.
- Kang, B.S. (2009). Country Influences on Corporate Dividend Policy: Evidence from Australia, France, the U.K., and the U.S. *The International Scholarly Journal of the Korea Trade Research Association*, 10(3): 1-29.
- Kapoor, S. (2009). Impact of Dividend Policy on Shareholders' Value: A Study of Indian Firms. Unpublished Doctoral Dissertation, Jaypee Institute of Information Technology, Noida, India.
- Kato, H.K, Loewestein, U. and Tsay, W.(2002). Dividend Policy, Cash Flow, & Investment in Japan. *Pacific-Basin Finance Journal*. 10: 443-473.
- Ketz, J.E. (2010). Accounting for Liquidating Dividend. APB Opinion No. 18. (www.wku.edu/jack.hall/liqdiv.htm).
- Khan, F., Ahmad, M.A., Lim, G.C., Imran, J.A., and Ahmad, J. (2011). Determinants of Dividend Policy of Foreign Listed Company of Karachi Stock Exchange. *Australian Journal of Basic and Applied Sciences*. 5(12): 2917-2928.
- Khan, w, Naz, A, Khan, W, Khan, Q, Khan, T, and Munghal, I, (2013). Impact Assessment of Financial Performance and Leverage on Dividend Policy of Pakistan Chemical and Pharmaceutical Industries. *Middle-East Journal of Scientific Research*. 16 (10): 1376-1382,
- Kokemuller N (2007) What do Profitability Ratios Measure in Evaluation of a company. On line at www.pvisoftware.com/MUDPRO.html
- Kolb, R. (1981). Predicting Dividend Changes. *Journal of Economics and Business*, 33(3): 218–227.
- Kolb, R.W. and Rodriguez, R.J. (1996) Financial Management 2nd ed. Cambridge: Blackwell publishers
- Kowaleski, O., Stetsyuk, I., and Talavera, O. (2007). Corporate Governance and Dividend Policy in Poland. *Wharton Financial Institutions Centre Working Paper* No. 07-09.
- Kurfi, A.K. (2003). Principles of Financial Management. Bench Mark Publishers Ltd. Kano, Nigeria. 1st Ed. pp. 287-296.

- Leroy S.F. (2008) Dividend Policy and Income Taxation, University of California, SantaBarbara. USC FBE finance seminar.
- Litner, J. (1956). Distribution of Income of Corporation. *American Economic Review*, 46: 97-111
- Mackova, D. (2013). Short Term Debt, Asset Tangibility and Real Effect of Financial Constraints in the Spanish Crises. Revised Version of Master's Thesis Presented in Partial Fulfillment for Masters in Economics and Finance, at Centro De Estudios.
- Mainoma M.A. (2001). Dividend Policy Effects on the Value of Nigerian Firms: An Empirical Analysis. Unpublished Doctoral Dissertation, Ahmadu Bello University, Zaria. p. 50-58 & 90-98.
- Malek H. (2011) Determinants of Insurance Companies Profitability: An Analyses of insurance Sector of Pakistan. *Academic Research International*, 1(3): 315-322.
- Malik, F., Gul, S., Khan, M.T., Rehman, S.U., and Khan, M. (2013). Factors Influencing Corporate Dividend Payout Decisions of Financial and Non Financial Firms. *Research Journal of Finance and Accounting*, 4(1): 2222-2847.
- Maniagi, G.M., Ondiek, B.A., Musiega D., Maokomba, O. C. and Egessa, R. (2013). Determinants of Dividend Payout Policy Among Non Financial Firms on Nairobi Securities Exchange, Kenya. *International Journal of Scientific & Technology Research*. Vol. 3 (10) 253-266.
- Marfo-Yiadom, E. and Agyei, S.K. (2011). Determinants of Dividend Policy of Banks in Ghana. *International Research Journal of Finance and Economics*. 61: 100-108.
- Maronna, R., Malaa, D., and Yohei, V. (2006). Robust Statistics: Theory and Methods. Wiley.
- Masulis, R.W. and Trueman, B. (1988). Corporate Investment & Dividend Decisions Under Differential Personal Taxation. *Journal of Financial & Quantitative Analysis*, 23, 369-386.
- Mehta, A. (2012). An Empirical Analysis of Determinants of Dividend Policy: Evidence from UAE Companies. *Global Review of Accounting & Finance*. 3 (1): 18-31.
- Miller, M.H. and Modigliani, F. (1961). Dividend Policy, Growth and the Valuation of Shares. *Journal of Business*, 34: 411-433.
- Mohammad, M. Muneer, A. Mohammad, F. Irfan, L. and Adnan, H. (2014). Determinant of Dividend with Industry-wise Effect: Evidence from KSE 100 Index. *Research Journal of Finance and accounting*, 5 (3): 62-69
- Muritala T.A (2012) An Empirical Analyses of capital Structure on Firms Performance in Nigeria. *International Journal of Advances in Management and Economics*, 1(5): 116-124.

- Musa, I.F. (2009). The Dividend Policy of Firms Quoted on the Nigerian Stock Exchange: An Empirical analysis. *African Journal of Business Management*, 3 (10): 555-566.
- Nakamura A. and Nakamura M. (1985). Rational Expectations and the Firm's Dividend Behaviour. *Rev. Econ. Stat.* 15: 606-708
- Negash, M. (2001). Debt, Tax Shield and Bankruptcy Costs: Evidence from Johannesburg Stock Exchange. *Invest. Anal. J.* 54(3): 114-128.
- Nnadi, M.A and Akpomi, M. (2008). The Effect of Taxes on Dividend Policy of Banks In Nigeria. *International Research Journal of Finance and Economics*. 19: 47-54.
- Nnadi, Wogboroma, and Nyema (2013). Determinants of Dividend Policy: Evidence from Listed Firms in the African Stock Exchanges. *Panoeconomicus*, 6 (10): 725-741.
- Nyor, T. and Adejuwon, A.A. (2013). What Accounts for Dividend Payment in Nigerian Banks. *International Journal of Business, Humanities and Technology*, 3(8): 123-127.
- Ogbulu, O.M. and Arewa, A. (2010). The Long-run Directional Relationship Between Leverage and Dividend Payment: Empirical Evidence from the Nigerian Stock Exchange. *Asian Journal of Business and Management Sciences*. 2(1): 22
- Oladipupo, A.O. and Okafor, C.A. (2013). Relative Contribution of Working Capital Management to Corporate Profitability and dividend Payout Ratio: Evidence from Nigeria. *International Journal of Business and Finance Management Research*, 1: 11-20.
- Onuorah A.C and Okoroafor E.O (2013) Investigating causality Effect of Tax Measures on Dividend Policy Of Quoted Companies in Nigeria Stock Exchange. *European Journal of Business and Management*. Vol. 5(2): 59-78.
- Pachori, C.A. and Totala, N.K. (2012). Influence of Financial Leverage on Shareholders' Return and Market Capitalization: A Study of Automotive Cluster Companies of Pithampur, (M.P.), India 2nd International Conference on Humanities, Geography and Economics (ICHGE'2012), Singapore April 28-29, 2012.
- Pandey, I.M. and Bhat, R. (2007), Dividend behavior of Indian companies under monetary policy restrictions. *Managerial Finance*, 33(1): 14-25.
- Pandey, I.M. (2005). Financial Management, Vikas Publishing House PVT Ltd., India.
- Parsian, H and Koloukhi A.S (2013) Effect of Free Cash Flow and Profitability Current Ratio on Dividend Payout. Evidence from Tehran Stock Exchange. *Management science letters*, 4: 63-70.
- Pruitt, S.W., and Gitman, L.J. (1991). The Interactions between the Investment, Financing and Dividend Decisions of Major U.S. Firms. *Financial Review* 26(3): 235-239.

- Rafique, M. (2012). Factors Affecting Dividend Payout: Evidence From listed Non Financial firms of Karachi Stock Exchange. *Business Management Dynamics*. 1(11): 76-92.
- Ramachandran, A. and Packkirisamy, V. (2010). The Impact of Firm Size on Dividend Behaviour: A Study with Reference to Corporate Firms Across Industries in India. *Managing Global Transition* 8 (1): 49-78.
- Ranti U.O (2013) Determinants of Dividend Policy: A study of selected listed firms in Nigeria, *Change and leadership journal*. 17: 107-119.
- Rodriguez, R.J. (1992). Quality dispersion and the feasibility of dividends as signals. *Journal of Financial research*, 15: 411-433.
- Ross, S.A., Westerfield, R.W. and Jordan, B.D. (2001) Essentials of Corporate Finance, 3rd. ed. Singapore: McGraw-Hill.
- Salehnezhad, S.H. (2013). A Study Relationship between Firm Performance and Dividend Policy by Fuzzy Regression: Iranian scenario. *International Journal of Accounting and Financial Reporting*, 3(2): 70-75.
- Samuel, S.E. and Gbegi, D.O. (2010). Dividend Policy, Liquidity Constraint and Firm investment in Nigeria: An Empirical analysis. *Continental journal of Social Sciences*, 3: 59-64.
- Santhi, A. and Lee, W.S. (2011). study on leading determinants of dividend policy in Malaysia listed companies for food industry under consumer product sector. Paper presented during the 2nd international conference on business and economics.
- Saritas, H. (2002) The Impact of Financial Leverage on Return and Risk. *D.E.U.I.I.B.F. Dergisi*, 15: 23-34.
- Singapurwoko, A. and El-Wahid, M.S. (2011). The Impact of Financial Leverage to Profitability Study of Non-Financial Companies Listed in Indonesia Stock Exchange. *European Journal of Economics, Finance and Administrative Sciences*, 32: 1450-2275.
- Smith, C.W. Jr. (1977). Alternative Methods for Raising Capital: Rights Versus Underwritten Offerings. *Journal of Financial Economics*. 5: 273-307.
- Statman, M. (1997). Behavioural Finance. *Contemporary Finance Digest*, 1: 5-21.
- Takhtaei, N. (2014). Relationship between firm age and financial leverage with dividend policy. *Asian Journal of Finance and Accounting*, 6(2): 100-112.
- Umoh, P.N. (1997). Principles of Finance. Page Publishers Services Ltd, Lagos.
- Uwuigbe, U, Jafaru, J, and Ajayi, A. (2012). Dividend Policy and Firm Performance: A Study of Listed Firms in Nigeria. *Accounting and Management Information Systems*, 11(3): 442–454.

- Uwuigbe, O.R. (2013). Determinants of Dividend Policy: A study of selected listed firms in Nigeria. *Change and Leadership*, 17(3) 107-119
- Vo, D.H. and Nguyen, V.T. (2014). Managerial Ownership, Leverage and Dividend Policies: Empirical Evidence from Vietnam's Listed Firms. *International Journal of Economics and Finance*, 6(5): 274-284.
- Watson, D. and Head, A. (2004). Corporate Finance: Principles & Practice 3rd ed. Essex: Pearson Education Ltd.
- Wetson, J.F. and Copeland, T.E. (1986). Managerial Finance 5th ed. Dryden Press.
- Yero and Shehu (2012). Free Cash Flow, Growth Opportunity and Performance of Nigerian Quoted Food, Tobacco and Beverages Firms. A conference Paper Presented at Kaduna State University (KASU) 2013.
- .Zaman, S. (2013). Determinants of Dividend Policy of a Private Commercial Bank In Bangladesh: Which is the strongest, Profitability, Growth, or Size. Proceedings of 9th Asian Business Research Conference 20-21 December, 2013, BIAM Foundation, Dhaka, Bangladesh ISBN: 978-1-922069-39-9
- Zameer, H (2013). Determinants of Dividend Policy: A case of Banking Sector in Pakistan. *Middle east journal of scientific research*, 18(3): 410-424.

APPENDICES

Appendix A

Population of the Study

Food & Beverages Firms Listed on the NSE as at 31st December, 2013

1. 7up Bottling Company Nig. Plc
2. Big Treat Nig. Plc
3. Cadbury Nig. Plc
4. Dangote Flour Nig, Plc
5. Dangote Sugar Nig. Plc
6. Flour Mills Nig. Plc
7. National Salt Company Nig. Plc
8. Nestle Nig. Plc
9. Northern Nig. Flour Mills Plc
10. P.S Mandrides Nig. plc
11. Tantalizers Nig. Plc
12. UTC Nig. plc
13. Union Dicon Salt Nig. Plc

Appendix A1

List of Sampled Firms

List of Sample Firms	Year of Incorporation
7up Bottling Company Nig. Plc.	1959
Cadbury Nig. Plc.	1965
Flour Mills of Nig. Plc	1960
National Salt Company of Nig. Plc	1973
Nestle Nig. Plc.	1961
Northern Nig. Flour Mills Plc.	1972
Tantalizers Nig. Plc.	1997
UTC Nig. Plc.	1932

Appendix B

Descriptive Statistics and Correlation Matrix

```
. summarize dps cafl fsz prof fgr levr ctax fage ast
```

Variable	Obs	Mean	Std. Dev.	Min	Max
dps	64	16.80844	31.60947	0	126
cafl	64	.1981562	1.759551	-8.5	8.84
fsz	64	9.900469	.642632	8	10.94
prof	64	2.958125	4.787816	-4.13	20.81
fgr	64	5.07625	4.797798	-2.23	19.32
levr	64	.6096875	.1826435	.27	1.12
ctax	64	.4282812	2.044391	-1.55	16.32
fage	64	42.625	17.25578	7	79
ast	64	.5092187	.2307978	.08	.93

```
. corr dps cafl fsz prof fgr levr ctax fage ast
(obs=64)
```

	dps	cafl	fsz	prof	fgr	levr	ctax
dps	1.0000						
cafl	0.0840	1.0000					
fsz	0.4574	-0.0907	1.0000				
prof	0.7970	0.0369	0.4238	1.0000			
fgr	0.8159	0.0887	0.4258	0.5809	1.0000		
levr	0.1840	0.2246	-0.0998	0.0694	0.1439	1.0000	
ctax	-0.0343	-0.0121	-0.0532	-0.0418	-0.1153	-0.1520	1.0000
fage	0.1148	-0.1921	0.1319	-0.0808	0.1690	0.0665	0.2077
ast	-0.0109	-0.3261	0.0650	0.1193	-0.0766	-0.1953	0.1320
	fage	ast					
fage	1.0000						
ast	0.0905	1.0000					

.

Appendix C

Fixed Effect and Random Effect Regression Tests and Hausman Specification Test

```
. xtreg dps cafl fsz prof fgr levr ctax fage ast, fe
```

```
Fixed-effects (within) regression      Number of obs      =          64
Group variable: id                    Number of groups   =           8

R-sq:  within  = 0.3229                Obs per group: min =           8
      between  = 0.1536                      avg      =          8.0
      overall  = 0.1618                      max      =           8

                                         F(8,48)            =          2.86
corr(u_i, Xb)  = -0.2418                Prob > F            =          0.0110
```

dps	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
cafl	-.3084226	.6565429	-0.47	0.641	-1.628491	1.011645
fsz	3.103994	4.200805	0.74	0.464	-5.34229	11.55028
prof	.9736198	.3792651	2.57	0.013	.2110562	1.736183
fgr	.2922078	.4963924	0.59	0.559	-.7058561	1.290272
levr	5.746945	7.123925	0.81	0.424	-8.576666	20.07056
ctax	-.1079209	.5082688	-0.21	0.833	-1.129864	.914022
fage	1.028694	.5959934	1.73	0.091	-.1696308	2.227019
ast	11.25277	8.713338	1.29	0.203	-6.266571	28.77211
_cons	-71.26069	35.72899	-1.99	0.052	-143.0986	.5772681
sigma_u	30.792348					
sigma_e	7.5955201					
rho	.94264421	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(7, 48) =      18.92      Prob > F = 0.0000
```

```
. estimates store fixed
```



```
. xtreg dps cafl fsz prof fgr levr ctax fage ast, re
```

```
Random-effects GLS regression           Number of obs   =          64
Group variable: id                     Number of groups  =           8

R-sq:  within = 0.1024                  Obs per group: min =           8
      between = 0.9868                                avg   =          8.0
      overall  = 0.8370                                max   =           8

                                           Wald chi2(8)      =       282.49
corr(u_i, X)   = 0 (assumed)            Prob > chi2       =       0.0000
```

dps	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
cafl	.1853393	1.083461	0.17	0.864	-1.938206	2.308884
fsz	2.151129	3.146019	0.68	0.494	-4.014954	8.317212
prof	3.287789	.4840255	6.79	0.000	2.339116	4.236461
fgr	3.227488	.4877414	6.62	0.000	2.271533	4.183444
levr	13.71286	10.16513	1.35	0.177	-6.210441	33.63616
ctax	.7680076	.8940718	0.86	0.390	-.9843409	2.520356
fage	.1016878	.1122181	0.91	0.365	-.1182556	.3216312
ast	-3.894051	8.214523	-0.47	0.635	-19.99422	12.20612
_cons	-41.6757	31.9513	-1.30	0.192	-104.2991	20.9477
sigma_u	0					
sigma_e	7.5955201					
rho	0	(fraction of variance due to u_i)				

```
. estimates store random
```

```
. hausman fixed random
```

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fixed	(B) random		
cafl	-.3084226	.1853393	-.4937619	.
fsz	3.103994	2.151129	.9528653	2.783762
prof	.9736198	3.287789	-2.314169	.
fgr	.2922078	3.227488	-2.93528	.0922703
levr	5.746945	13.71286	-7.965913	.
ctax	-.1079209	.7680076	-.8759285	.
fage	1.028694	.1016878	.9270065	.5853334
ast	11.25277	-3.894051	15.14682	2.905834

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(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 1557.47
 Prob>chi2 = 0.0000
 (V_b-V_B is not positive definite)

Appendix D

Multicollinearity and Heteroskedasticity Tests

```
. vif
```

Variable	VIF	1/VIF
prof	2.06	0.486132
fgr	1.77	0.566002
fsz	1.46	0.687191
fage	1.39	0.721722
ast	1.23	0.811673
cafl	1.22	0.819447
levr	1.17	0.856561
ctax	1.10	0.910508
Mean VIF	1.42	

```
. xttest3
```

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: $\sigma(i)^2 = \sigma^2$ for all i

chi2 (8) = 2809.86

Prob>chi2 = 0.0000

Appendix E

Fixed Effect Robust Regression Test

```
. xtreg dps cafl fsz prof fgr levr ctax fage ast,fe robust
```

```
Fixed-effects (within) regression      Number of obs      =      64
Group variable: id                    Number of groups   =       8

R-sq:  within = 0.3836                  Obs per group: min =       8
      between = 0.0833                      avg =      8.0
      overall  = 0.0971                      max =       8

                                F(7,7)      =      .
corr(u_i, Xb)  = -0.2725                Prob > F          =      .
```

(Std. Err. adjusted for 8 clusters in id)

dps	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
cafl	-.29451	.3600558	-0.82	0.440	-1.145907	.5568868
fsz	4.061512	3.885279	1.05	0.331	-5.125714	13.24874
prof	1.288934	.5735361	2.25	0.059	-.0672632	2.645132
fgr	.238056	.2535112	0.94	0.379	-.3614027	.8375147
levr	8.044999	9.448159	0.85	0.423	-14.29635	30.38634
ctax	.0148915	.1031229	0.14	0.889	-.2289556	.2587385
fage	72.62906	25.39471	2.86	0.024	12.58012	132.678
ast	10.67029	7.675563	1.39	0.207	-7.479529	28.82011
_cons	-151.5122	71.1399	-2.13	0.071	-319.7313	16.70696
sigma_u	32.366835					
sigma_e	7.2471228					
rho	.95225959	(fraction of variance due to u_i)				