

**TC**

**ISTANBUL COMMERCE UNIVERSITY  
GRADUATE SCHOOL OF FINANCE  
MASTER OF INTERNATIONAL FINANCE**

**DETERMINANTS OF DIVIDEND POLICY FOR  
SELECTED AFRICAN COUNTRIES**

**MSc. Thesis**

**Said Jamilu BABANGIDA**

**200014686**

**Istanbul, 2021**

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**Advisor: Prof. Serkan Çankaya**

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## DECLARATION

I hereby declare that this dissertation titled, “*Determinants of dividend policy for selected African countries*” has been undertaken fully by me in the Department of International Finance under the supervision of Professor Serkan ÇANKAYA. All sources used in the work have been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other institution.

07.09.2021

Said Jamilu Babangida

## **DEDICATION**

This Dissertation is dedicated to father, my first mentor and role model, who with keen insight and sense of responsibility, taught me from childhood how to love and revere a heritage of great value. Who has taught me to inhabit two worlds - the Islamic culture which I identify with and the African culture.

## ACKNOWLEDGEMENT

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## **ABSTRACT**

The study examines the factors that determine the dividend policy of firms in some selected stock markets in Africa, namely Nigeria, South Africa and Egypt using yearly data from 2005 to 2019. This study supports that dividend policy in Africa is determined by tangibility, profitability, leverage, growth opportunities, age, and size of the firms. Dividend volatility is shown to exert an insignificant effect on dividends in Africa. Specifically, the study showed that tangibility and leverage and dividend volatility are not important determinants of dividends in Nigeria. Profitability, dividend volatility and age are not important in determining dividends in South Africa while dividend volatility, profitability, leverage, and age are not important determinants of dividends in Egypt. Based on the findings, the study supports the conclusion that growth opportunities and sizes are the most significant factors that determine the decision of firms to pay a dividend to investors in the selected countries.

**Keywords:** Africa, Dividend policy, Egypt, Financial markets, Nigeria, South Africa.

## ÖZET

Çalışma, Afrika'da seçilen bazı borsalarda, yani Nijerya, Güney Afrika ve Mısır'da, firmaların temettü politikasını belirleyen faktörleri, 2005'ten 2019'a kadar olan yıllık verileri kullanarak incelemektedir. Bu çalışmanın sonuçları, Afrika'daki temettü politikasının bir bütün olarak somutluk, karlılık, kaldırıcı, büyüme fırsatları, yaşı ve firmalarının büyüklüğü ile belirlendiği desteklemektedir. Temettü oynaklığının Afrika'daki temettü üzerinde önemsiz bir etki yarattığı görülüyor. Bilhassa çalışma, Nijerya'da somutluk ve kaldırıcı ve temettü oynaklığının temettülerin önemli belirleyicileri olmadığını gösterdi. Güney Afrika'da kârlılık, temettü oynaklığı ve yaş önemli değilken, temettü oynaklığı, karlılık, kaldırıcı ve yaş, Mısır'daki temettülerin önemli belirleyicileri de değildir. Elde edilen bulgulara dayalı olarak çalışma, seçilen ülkelerdeki firmaların yatırımcılara temettü ödeme kararını belirleyen en önemli faktörlerin büyüme fırsatları ve büyüklükleri olduğu sonucunu desteklemektedir.

**Anahtar kelimeler:** Afrika, Güney Afrika, Mısır, Nijerya, Temettü politikası, Finansal piyasa.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1. Background to the Study**

Dividend policy decision of firms is one of the most crucial decisions in corporate governance. Dividend is the pro rata distribution of profit to shareholders for the contribution to the capital of a firm. The firm's decision to pay dividend is crucial from different fronts. It serves as yardstick for investors looking for stock that guarantee them a consistent stream of income and an important tool for valuing stock by analyst (Chazi, Boubakri, & Zanella, 2011)

Following the seminar work of Miller & Modigliani (1961) that concluded that dividend is not a relevant determinant of firms' market value under the assumptions of perfect market. This attracted a lot of research from policy makers to relax those assumptions and recognise the existence of market imperfection such as taxes, agency costs, information asymmetry. The features of an imperfect market revealed that dividend policy exerts effects on the value of the firm. This has led to the rise of three school of thought on dividend policy. The first school being "the dividend irrelevance theory" proposed by Miller & Modigliani (1961). The other two school of thoughts are the "tax disadvantaged" and "firm value increasing dividend" school of thought. The tax disadvantage school proposes that capital gains are better than dividends such that dividend have tax disadvantage for shareholders. This leads to the fall in return investors receive after payment of dividend. Finally, the firm value increasing school of thought hold the belief the dividend paid to shareholders is capable of increasing a firm's value. Under this, investors to the firm desire dividend that is certain to an uncertain capital gain (Kumar & Sujit, 2016). Therefore, dividend are good signals for the firm and increase the value of a firm. Despite the development of several theories to give explanation on why firms pay dividends to their shareholders, the dividend policy decision remains a puzzle that has remained unfixed yet. Empirical studies have failed to completely confirm the validity of theoretical proposition on the factors that determine the decision of firms to pay dividends to their investors. A sample of such factors include profitability, size, leverage, ownership, risk, volatility in dividend, age of firm, growth, liquidity, etc. Most of these evidence are based on data from both developing and developing economies

(e.g., Ahmad, Barros, & Sarmento, 2018; Barros, Matos, & Sarmento, 2019; Jabbouri, 2016; Kaźmierska-Jóźwiak, 2015; Kumar & Sujit, 2016; Denis & Osobov, 2008; etc.). These empirical studies have shown dividend policy of firms vary across countries.

The African economy's capital markets have important features for the dynamism of dividend policy. Hence, to understand the determinants of dividend policy for firms in Africa, we select the firms with updated data in Africa during the period 2005 to 2018 for the countries with the accurate information (i.e., Nigeria, South Africa and Egypt). These stock exchange markets are considered to be the most performing stock exchange markets in Africa. The sample is composed of 54 firms for Nigeria; 32 firms for South Africa; and 18 for Egypt. The sample of the study is balanced and consists of 810 firm-year observations for Nigeria, 480 firm-year observation for South Africa and 270 firm-year observation for Egypt.

## **1.2. Research Questions**

The thrust of the study is to give answer to the following questions;

- i. Which factors determine dividend policy in Africa?
- ii. At what extent do the factors affect dividend policy of African stock market?

## **1.3. Research Purpose**

The study broad purpose is to examine the determinants of dividend policy decision of corporate firms in Africa. Particularly, the study seeks to achieve the following objectives. The findings and analyses in this study can be justified from both theoretical and empirical fronts.

- i. Ascertain the determinants of dividend policy of firms.
- ii. Examine the extent to which these factors impact the dividend policy of firms.
- iii. Analyse determinants of dividend policy of firms in Africa.

#### **1.4. Hypotheses of Research**

The research hypotheses of this study are stated thus;

**H0:** profitability, tangibility, growth opportunities, size, leverage, age do not determine dividend policy of firms in Africa.

**H1:** profitability, tangibility, growth opportunities, size, leverage, age determine dividend policy of firms in Africa.

#### **1.5. Significance of the Research**

The result of this research will contribute to the corporate governance literature in dividend for Africa. This will extend the frontier of knowledge and serve as a reference for further studies for both academicians, policy makers and investors. Similarly, the study will contribute to giving a broad explanation to determinants of dividend policy in Africa as a reference for other developing economies.

#### **1.6. Scope of the Research**

The study consists of data from 2005 to 2019 period with 54 cross-sections for Nigeria, 18 for Egypt and 32 for South Africa. The small number of firms selected is due to unavailability of complete data for other stock markets in Africa and companies for the selected countries. This study will be limited by the availability of data for other stock markets in Africa. Therefore, we proceed with the use of data for the available firms in the countries concerned.

#### **1.7. Structure of the Research**

This research will comprise of chapter 1-5. Chapter 1 will contain the background to the study, research objectives, research hypothesis, relevance of research etc. Chapter 2 will comprise the theoretical and empirical literature while chapter three will consist of the research methodology. The fourth chapter will focus on the presentation and discussion of results. Finally, chapter 5 consists of the summary and conclusion of the study.

## **CHAPTER TWO**

### **THE ECONOMIES OF THE SELECTED AFRICAN COUNTRIES**

The implications of the overall macroeconomic operations on the stock market and management of dividend policy of firms in the selected African stock market cannot go unnoticed. Among the African stock markets, only three stock markets are selected based on data availability and efficiency in performance. This means that the other countries stock market record little international participation and trading activities due to underdevelopment characteristic of their stock exchange markets. Other African stock markets have incomplete data for the purpose of this research and perform weakly compared to the selected countries. In this chapter, the economic environment of Nigeria, Egypt and South Africa would be discussed briefly as well as their financial structure.

#### **2.1. Overview of Nigerian Economy**

Nigeria occupies a land area of 923,760 sq km. the country is surrounded by Cameroun, Benin, chad and Niger. There are 36 states in Nigeria with Abuja as the. Capital seat of the country. Nigeria is blessed with 250 ethnic groups giving it a rich cultural diversity. Hausa, Yoruba, and Igbo are the main ethnic groups with English as the official language. There are two predominant religions in Nigeria (Islam and Christianity). Nigeria is a key important player in the Africa accounting for about 202 million population with abundant natural resources and largest exporter of crude oil (World Bank, 2020). Nigeria was projected to have a population that would be on the rise with fertility in the rural increasing. Furthermore, it is endowed with enormous resources such as petroleum, limestone, marble, tin, etc. prior to the discovery of oil in Nigeria, the mainstay of the economy was agriculture. The country depended on agricultural export of commodities such as palm oil, cocoa, rubber etc as source of revenue. This sector consumed 60% of the labour force. The discovery of oil brought about changes. Despite these resources, the economy largely depends on crude oil as the main source of revenue making it vulnerable to global economic shock arising from crude oil prices. The major source of revenue has overtime been the oil. These revenues come from royalties from oil companies, proceeds from direct sale of the crude oil internationally and locally, gas flaring penalties, licences etc. The contribution of this sector increased substantially with non-oil revenue accounting an insignificant portion.

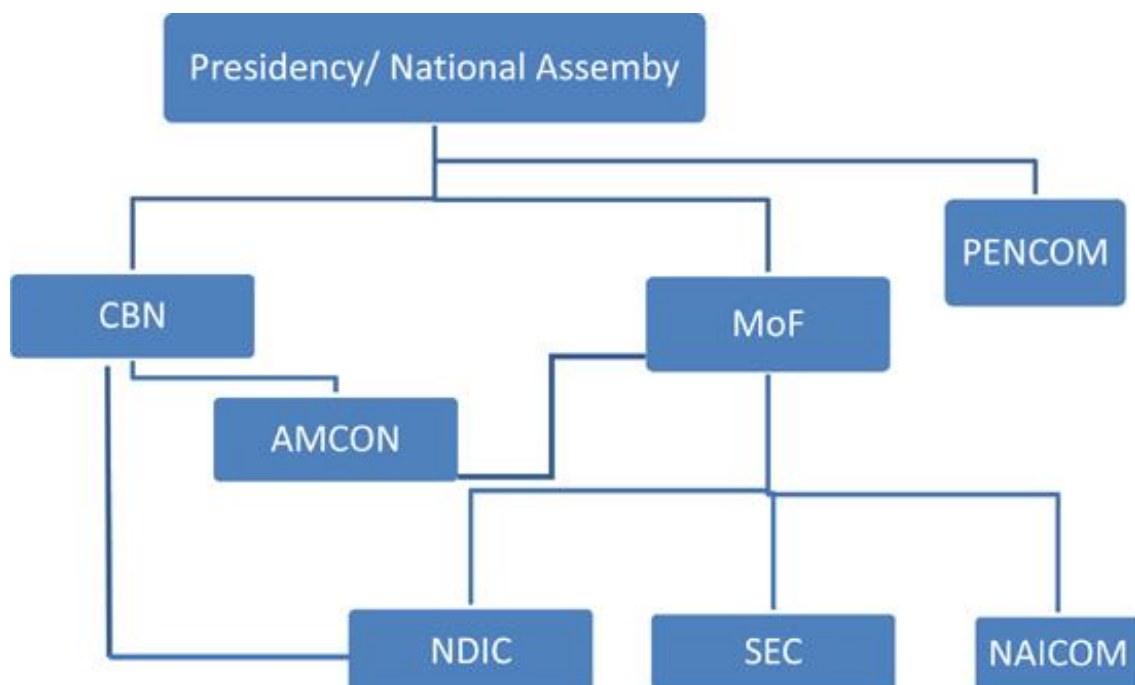


Nigerian economy revenue from the non-oil and gas sector has been debated to be insignificant. This calls for the need to strengthen the tax administration to improve revenue that could be generated domestically. Overtime, the government have sustained some interesting economic reforms in fiscal management and the financial sector to drive in growth and development of the economy. These reforms have proved to contribute in the strengthening the macroeconomic stability overtime and led to improvement in some economic indicators as well as diversification of the economy. Tax accumulation stems from company income tax (30% of total profits after deducting allowable), personal income tax (7-24% depending on income), capital gain tax (10% of gains from asset holdings), VAT (5% on goods and services), education tax (2% on profits), technology tax, custom duties and withholding tax (5-10% depending on goods) (Mondaq, 2018). The economy of Nigeria has witnessed some growth averaging 7% driven by non-oil sectors. Although the growth has not translated to meaningful job creation. The unemployment rate in Nigeria hovers around 8% since 2016. The inflation rate on the other hand in Nigeria has stabilised overtime from the high value of 23.8% in December 2003 to 11.98% in 2019. This is achieved by the Central Banks adjustment of the monetary policy rate to ensure a moderate inflationary pressure is achieved as well as the use of other measures such as purchase of non-performing loans from banks (CBN, 2020)

### **2.1.1. Nigeria Financial System**

The Nigerian financial system comprises of institutional units and markets that interact with the aim of mobilising funds. The financial system like most financial systems in the world perform the role of intermediaries between the unit with surplus spending and the unit with deficit spending. The financial system includes financial markets (i.e., money market and capital market), financial institutions that include banks, brokerage firms, and insurance firms, pension funds etc. The Nigerian financial system is consisted of the formal sector (bank and non-bank institutions) and the informal sector (savings and loan association). The informal sector in unorganised in nature with no formal regulation. The Nigerian financial system performs the function of efficient payment system, mobilising savings from surplus spending unit to deficit spending unit for investment purposes. Indeed, this financial system is critical to economic growth by enhancing economic performance by the means of allocating resources (CBN, 2017). The instruments used in this financial structure includes debts, treasury bills, equities, derivatives with a maturity

that is either short term, medium term, or long term. The activity in the financial system is regulated by the Central Bank of Nigeria and the Ministry of Finance (MOF). These are the apex institutions. The Central Bank manages and controls the supply of money in circulation with the primary objective of ensuring price stability while the MOF oversees fiscal policy of the country. Another regulator of the financial system is the Nigeria Deposit Insurance Corporation (NDIC). This oversees protecting depositors and guarantee payment of insured funds in the event of failure of deposit institutions. Security Exchange Commission (SEC) on the other hand established in 1962 was to process applications from companies seeking to raise capital from the capital markets (CBN, 2017).



Source: IMF

**Figure 1. Nigeria Financial Structure Chart**

Moreover, the Nigerian stock exchange plays important role in development of the Africa's financial markets. It is one of the most significant stock markets in the continent with a market capitalisation of 43,921 million US dollars. This market has witnessed adjustment to achieve highest level of effectiveness among its subscribers.

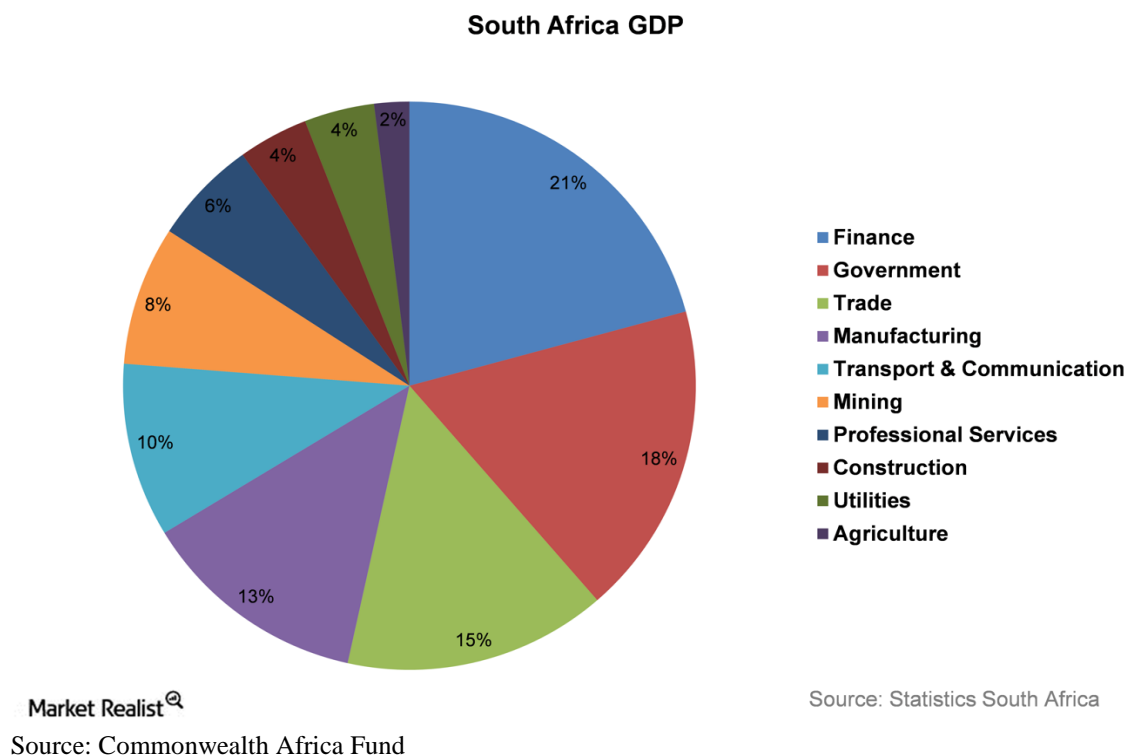
This financial system has witnessed some series of evolution as regards the macroeconomic environment they operate. Interestingly, the deposits money banks are considered the most significant financial institution in Nigeria by channelling mobilised

savings to investment units. The financial assets traded in the Nigerian financial system are money, stocks, and bonds. These financial assets are denominated in Naira and the financial instruments are classified under highly liquid and illiquid assets. Highly liquid assets are those that can be readily converted into cash. While illiquid instruments are subject maturity period. The Nigerian financial markets are divided by the nature of claim (equity market and bond market), maturity of claim (money market and capital market), by season of claim (primary market and secondary market), by time of delivery (spot market and derivative market), by organisational structure (auction, over the counter and intermediate market). These instruments are traded on the Nigerian Stock Exchange (NSE) markets. The NSE makes provision for issuing and redeeming securities with dividend payment. Unlike other economies, Nigerian financial system is majorly determined by the banking sector. That is, it is predominantly a money market financial system. Considering this, the central Bank introduced some banking reforms in pursuit of effective corporate governance. This has led to the correction of illegal practices in the banking sector by the Chief Executives among top 5 banks in Nigeria. This also has helped in the reduction of banks in the economy.

## **2.2. Overview of South African Economy**

South Africa is a country in the southern area of Africa with a total population of about 59 million people and a land mass area of 1,221,037 sq km. It is dominated by black African with total percentage of 80% and 20% consisting of whites South African and Indian South African. South Africa is surrounded by Namibia, Zimbabwe, and Swaziland. This country is newly industrialised with a mixed economy as one of the best GDP per capital and well performing stock market. The unemployment rate, inflation and poverty in South Africa are still worrisome despite its large GDP per capita. There have been many government policies to thwart the effect of this economic problems. Success was recorded in bringing inflation down and stabilise the public finances. The country also witnessed a growth in GDP followed by improvement in unemployment from 2004. The economy of South Africa constitutes Agriculture, tourism, manufacturing, mining etc. Agriculture is reported to contribute around 10% of the total employment in the country. It is of major importance as it contributes to the domestic economy. Major crops cultivated are wheat, groundnuts, tobacco etc. While tourism sector contributes significantly to the economy. The main stay of the economy has been the mining sector.

South Africa is rich in Diamond and gold. Aside gold and diamond, South Africa is endowed with manganese, copper, beryllium, silver, platinum, vanadium, coal, chromium, titanium, zirconium etc. Manufacturing sector has shown to contribute large to employment and GDP. The south African economy depends heavily on the manufacturing sector with large contribution to the GDP. It provides the largest workforce. This economy faced serious electricity challenges in the year 2015 which became a problem for its industries. The country enjoys a good tax system. It is one of the safest tax haven economies and a stock market that largest in Africa. The finance sector of south Africa is composed of the finance, real estate, and business activities. The chart below gives an overview of the south African economy.

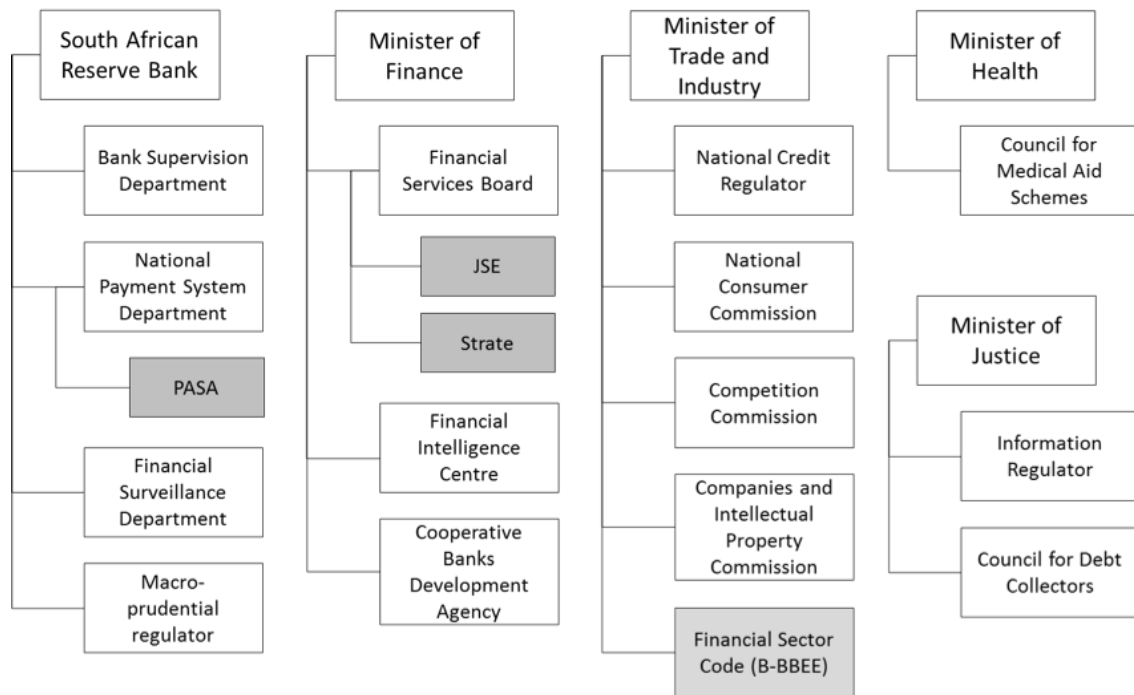


**Figure 2. South African Economic Structure**

This chart shows the overview of the South African economy in the year 2016. The trend in the contribution has been maintained overtime with the strong financial system in the country. It is considered to have one of the best financial systems in Africa. The financial system has maintained a growth rate of 0.6 percent in the fourth quarter of 2019. The chart above shows that overtime the finance sector contributes to the GDP more than all other sectors of the economy.

### **2.2.1. South African Financial System**

South Africa has one of the best performing financial system in Africa. In south Africa, with the Reserve Bank as the apex bank has the role of achieving and maintaining stability, supervision of banks and management of gold and foreign reserve of the economy. The financial system is composed of the money markets, bond markets, equity market, commodity market and the foreign exchange markets like most economies. During the past few decades, the financial system has seen introduction of some new instruments and institution to regulate these transformations for efficiency (Godza, 2013). The money market has about 55 locally banks controlled by the Central bank. There are 5 big banks in South Africa controlling major finances in the country. Interestingly, the financial system contains well performing stock market and banking sector. To address the challenge of competition among the 5 major banks, the government launched the Financial Sector Development and Reform Program (FSDRP) to strengthen financial stability and improve financial inclusion. In the capital markets, the government issues bonds to its citizens with the Revenue bank as the underwriter of these issued bonds. In 2005, the south Africa bond market was reported to be among the most liquid bond market in the world. Despite other companies' bond, the government bond remains the most dominant bond in the bond market. On the other hand, the stock market located in Johannesburg is the most developed stock market in Africa trading in equities. Aside, the central bank, commercial banks, there exist other institutions in the financial systems like Micro Finance Regulatory Council (MFRC) having the responsibility of providing access to funds to individual with low income. Other financial intermediaries in the system includes Corporate for Public Deposits (CPD), Land and Agricultural Bank (LAD), mutual banks, public investment commissioners (PIC), Development Finance Intermediaries etc. The financial system witnessed some changes with respect to regulation, products, and participation. There are a quite number of regulators, agencies in the financial sector. These organisations perform their roles with respect to oversight in payment system, financial services, consumer protection, intellectual property, environmental effect, legal system etc. An overview of the South African regulators with the institutions under their regulation is given below.



Source: Financial Market Journal

**Figure 3. South African Financial Structure**

### 2.3. Overview of Egyptian Economy

Egypt is a country in the northern area of Africa with a total population of over 100 million people and a mass area of 1010450 sq. km (land 995,450 sq km and water 6000 sq km). The country is bordered by Palestine, Israel, Sudan, and Libya. Egypt has large coal reserves and mainly export petroleum and crude oil for revenue. Although, Egypt has been known with the tradition of exporting cotton to other part of the world. Despite limited arable lands in the economy, it has managed to increase its agricultural production of crops. This has helped in providing jobs with about a quarter of the economy's workforce in the agricultural sector. The economy of Egypt is highly centralised in nature with special focus on taxation. Considerably, in the last few decades, the economy opened. Agriculture, manufacturing, tourism, and other service sectors drove the economy's relatively diverse economic activity. In spite Egypt's attraction of foreign investment over the past two decades, poor living conditions and limited job opportunities have contributed to public discontent. The economic growth of Egypt has been halted by the social and political unrest from 2011 which has contributed to unemployment (CIA, 2020).

The economy has witnessed some structural adjustment in both fiscal and monetary policy management. This adjustment has helped the economy in achieving a market-oriented economy and led to macroeconomic performance. On the public finance side, large share of the economy's revenue comes from taxation due to the tax reforms. The government gave more room to private sector expansion. Despite economic progress resulting from IMF, the economy continued to face some economic troubles prior to 2000. The government effort to increase private sectors has created free market economy with some state control. The economy's export basket includes resources like crude oil, cotton, petroleum products, textile, metals etc. Agriculture in Egypt only contributes 17% to the GDP. Conversely, the industrial and service sector contribute largely to the GDP. The economy imports large amount of its food requirement as most of its land is used to cultivate cotton for export. Egypt has a relatively developed financial system with the expansion of the banking sector. The economy of Egypt has been confronted with some economic imbalances that called for important reforms by the Government in 2016.

### **2.3.1. Egyptian Financial System**

The financial system of Egypt has the earliest modern banks. The banking sector is the major sector in the financial sector. The banking sector in Egypt is subdivided into commercial banks, investment banks and specialised banks. The banking sector is predominantly owned by the government. The private banks are rapidly growing with massive government control. The financial institution include the Central bank established in 1961 to supervise the monetary policy with the aim of achieving a stable exchange rate and economy. Furthermore, the depository institutions include commercial banks, merchant banks and specialised banks. The commercial banks have the largest portion of the depository institutions. Other financial institutions in Egypt are insurance companies to deal with issue that relate with insurance. Mutual funds on the other hand assist banks to participate in the stock market. The economy enjoys some form of regulation or supervision which subjects financial institutions to certain requirements and guidelines to maintain the integrity of the financial system which is handles by government and non-government organisations. These regulations have also influenced the structure of banking sectors. Moreover, banking sector remain the core and largest in the economy's financial system. Due to the bank consolidation of 2011 to improve banks

balance sheet, the banks became 39. In recent years, the financial system of Egypt has witnessed some diversification and the introduction of vibrant stock market.



Source: SESRIC

**Figure 4. Egyptian Financial Structure**

According to history, the stock market in Egypt is one of the oldest stock markets in the world. The stock market witnessed some level of stagnation leaving only about 30 companies actively trading in the market. Considering the importance of equity market in the economy, the capital market was reorganised to encourage investors both locally and internationally using incentive such as tax exemption on securities etc.

The Egypt economy has one of the leading emerging markets in the MENA region with the stock market started in 1883 and followed by Cairo stock exchange market in 1903. These were unified to be a single stock exchange market with an active share of more than 200 companies in different sectors. The stock market enjoys a free tax environment. Tax is not paid by investors neither on capital gain nor dividends. In 2009, the Egyptian stock exchange market introduced a new price index to monitor the performance of 100 active companies.

## 2.4. Dividend Policy in Africa

Companies on the African stock exchange market have engaged in practices to make their shareholders smile with some dividend payment. Therefore, understanding dividend is crucial for shareholders. These dividend payments are paid from profit made by the



companies in the previous financial year. Most companies are obliged to pay dividends to their investors. Companies reduce their dividend payment to cut down expenses when they are making a loss. Companies adopt several dividend policies with an irregular pattern of payment. Companies on the African stock market create a transparent dividend policy decision to their shareholders as a return on investment. This dividend policy is formulated in accordance with some provisions from Companies and Allied Matters, Company Articles of Association, Regulations of the Securities Exchange Commission, internationally recognised best practices, and some principles of good corporate governance. These companies pay dividends from previous years profit. Interestingly, owners of shares have a great sense of the dividends even after buying shares before dividend payment. Shareholders are qualified to be paid dividend from companies. This is an opportunity presented to investors for the value of investment they have in the companies. To qualify for dividend, an investor must meet some certain conditions to be entitled to dividend payment. For instance, shareholder must buy a share at least 3 working days before dividend qualification date in Nigeria. Also, an investor must complete an e-dividend registration directing the registrar to pay dividend to his/her bank account. For all the countries, dividends are paid to investors after deducting a withholding tax at the legislative rate.

Moreover, it is the practice of firms in Africa for companies to pay dividend to shareholders from their profit. This gives the investors the benefit of investing in the companies. To make payment for dividend, the shares of the paying companies are marked down on stock market to reveal the total amount of dividend per share that an investor is entitled to for the period. Dividend is then distributed after the decision of firms during their Annual General Meeting upon the recommendation of Board of Directors. The dividend details of most companies are reported in the company annual report and/or on their websites. If the company gives out dividend, a special section is dedicated to outline the full details of dividend. Also, information on share buybacks is included in the annual report. Dividend payment signals that a business is financially healthy.

## **CHAPTER THREE**

### **THEORETICAL AND RELATED EMPIRICAL LITERATURE**

The determinants of dividend payout decision has attracted a significant attention and remains inconclusive. Several theoretical and empirical studies have linked the puzzled debate to different factors in both developed and developing economies. This section gives background information on dividend payout, reviews the key theoretical issues, empirical studies with the view to identifying the gaps existing in the literature.

#### **3.1. Dividend Payout Policy**

Dividend is defined as a distribution paid to shareholders based on the number of shares they own in a company (Clayman, Fridson, & George, 2012). It is also referred to as a cash payment made to shareholders from earning. The dividend to pay is declared to the public by the board of directors in the company with the approval of the shareholders. Payment of dividend to shareholders can be in different methods. The types of dividends payout methods includes cash dividend, stock dividend, and stock splits. The basic type of dividend is the cash dividend. Cash dividend is distributed to shareholders through regular, irregular, or liquidating form. A regular cash dividend is paid four times in a year. An extra or irregular cash dividend comes periodically as it does not come regularly. A liquidating dividend comes from the liquidation of the company. A cash dividend is expressed as either a dollar per share (dividend per share), a percentage of market price (dividend yield) or as a percentage of earnings (dividend payout). Dividends are not always given in cash as people assume. Dividends are also given in other forms such as stock dividend and stock split. The Stock dividend and stock split are non-cash dividends. The company distributes additional shares in place of cash to its shareholders. Lastly, stock split guarantees a shareholder an additional share for each share currently owned.

##### **3.1.1. Determinants of Dividend policy**

In this section, the factors that affect a firm's dividend policy decision are discussed. These factors determine whether dividend is to be paid and in what amount. The factor includes investment opportunities, expected volatility of future earnings, financial flexibility, tax consideration, flotation cost, contractual and legal restrictions. Firstly, a

firm with profitable investment opportunities will tend to pay out less dividend than firms with smaller opportunities because the firm with more profitable investment will have more use for the internally generated cash flows (Clayman et al., 2012). Secondly, the more volatile earnings are, the greater the risk of that dividend may not be covered by earnings in the future. This determines whether to pay dividend or not and in what quantity to reduce the effect on future earnings. Thirdly, companies with large financial flexibility can meet up with their unforeseen financial obligations and investment opportunities without much delay. Companies with financial flexibility contend tend to pay less in dividend or not pay dividend at all. Fourthly, taxation is an important factor that determines the investment decisions of investors. On the other hand, flotation cost in the form of fees paid by companies affect decision and quantity of dividend a firm intend to distribute. Finally, legal environment affects firm's decision to pay dividend. In a country where dividend is legally mandated, the firms have no alternative than to pay the dividends to shareholders.

Moreover, there are some companies selected factors that exert significant influence on the dividend payout of firms. The sample of such factors are free cash flow, growth, leverage, profit, risk, size etc. These factors are nested under the mentioned determinants of dividend policy. A sample of such company selected factors are explained in the methodology section of this study.

### **3.2. Theoretical Literature**

A large body of theories/hypothesis have been developed to give explanation to the dynamism of dividend policy following the contribution of Miller and Modigliani (1961) of Dividend irrelevance hypothesis. These theoretical propositions have given different explanations on the behaviour of dividend policy in determining the value of firm. Among these hypotheses are;

#### **3.2.1. MM irrelevance Hypothesis**

This theory developed by Miller and Modigliani (1961) argued that the dividend policy adopted by a firm has no effect on a firm's rate of return, cost of capital, shareholders' wealth and market value under some assumptions "i.e., perfect capital market, no taxation, no transaction cost, symmetric information, no conflict of interests" (Clayman

et al., 2012). They stated that irrespective of the form of dividend distribution a firm adopts, “the market value” of the firm is determined by the “basic earning power and investment decisions” of that firm (Kajola, Desu, & Agbanike, 2015). The “value of firm” is calculated based on “future earnings”, which is not affected by dividends payment of firms. Investor is indifferent in accepting dividend or selling the security in the future for capital gains. In line with this hypothesis, Black & Scholes (1974) argued that differences in dividend yield does not result in stock price changes. This reveals that dividend yield has no influence on stock prices (market value). Given the characteristics of the capital market with imperfect market conditions, dividends of firms are argued to be relevant to a firm’s market value as a result of transaction cost, agency problems, information asymmetry, etc. according to this theory, shareholders are indifferent in the choice between accepting dividend now or selling the securities for capital gains. In reference to the assumption of perfect capital market, no transaction cost, no asymmetry of information, the dividend payments become irrelevant for the shareholders. According to Modigliani and Miller (1961), the company raise capital by issuing new shares. As the new shares are issued, the price of the stocks will drop in the same proportion with the dividend paid. The fall in stock price and dividend payment will offset one another. Therefore, there is no change in value of the firm. This theory establishes the empirical test between dividend payment and profit (i.e., ROE) of the firm. Confirmation of a significant relationship invalidates the MM theory.

### **3.2.2. Bird in the Hand Hypothesis**

The opposing view of the irrelevance theory is that dividends of a firm affect its value. The Bird-in-hand theory mentioned by Lintner argued that dividend has a significant impact on the value of the firm. Gordon (1963) and Lintner (1962) have argued that even under the assumption of perfect capital markets, shareholders choose a readily available and certain dividend to an uncertain capital gain. Investors view dividend as less risky as compared to the future earnings. This hypothesis stated that “market value of a firm” is affected positively by dividend payout decisions of the firms. In other words, dividend have positive correlation with company’s value. The proposition of this hypothesis is underpinned by the fact that markets are characterised by imperfections and uncertainty (Babangida & Cankaya, 2021). This theory comes from the phrase “a bird in hand is worth twice in the bush”. In financial terms, shareholders are more interested in stocks

that pay them dividends now than stock that retained earnings to pay dividend in the future. Shareholders prefer what is readily available to them with certainty than what is not available to mitigate any risk. This lead market participants valuing dividends differently from capital gains. Thus, shareholders would prefer what is readily available to them with certainty (i.e., cash dividend) to an uncertain gain (i.e., future capital gain). Although, this hypothesis has been confronted with several criticisms. The theory is based on the assumptions that the company is all equity financed and. No external financing, constant internal rate of return, cost of capital and retention ratio, and the company has an eternal life Gordon (1963). This theory also corroborates the empirical relationship between dividend payment and profit. It is assumed that a company with a higher profit pay higher dividends to its shareholders.

### **3.2.3. Tax preference Hypothesis**

In reality, there are market imperfections that could create some challenges for the Dividend Irrelevance hypothesis of Miller & Modigliani (1961)). For instance, cash dividends incur taxes in most countries of the world. This theory suggests that “low dividend payout ratios” leads to “low rate of returns” for investors. Hence, this leads the “firm’s market value” to increase and vice versa. This argument is built on the assumption that dividends are tax disadvantaged than capital gains. Additionally, “taxes on capital gains” are deferred until a stock is sold while taxes are levied on dividends immediately. Taxes levied is argued to exert significant effect on income distributed in form of dividend by firms. In most economies, there are disparity in tax rates on dividends and capital gains. Therefore, different investors have different view on accepting cash dividends or take capital gains (Kajola et al., 2015). For instance, in a country that capital gains are taxed at lower rates than dividends, investors would not prefer companies that pay high dividends. (Clayman et al., 2012). The M&M hypothesis assumes no possibility of tax. However, in the reality, taxes have been shown to exert significant effect on the value of firm (Al-Malkawi, Rafferty, & Pillai, 2015). This hypothesis suggests that “ceteris paribus, a stock with higher dividend yield will sell at lower prices because of the disadvantage of higher taxes associated with dividend income”. investors would always prefer a low tax levy to a higher tax to have a higher return. Tax always exerts a negative effect on the stock of return an investor is entitled to. Therefore, they always seek a way to prevent the high effect from this tax.

### **3.2.4. Clientele Effects Theory**

This theory proposed that investor have different preferences towards dividend policy decisions. They suggested that some investors prefer a high dividend paying firms while others may want firms that hold higher amount of their earning to guard against high taxes. This set of investors prefer capital gains to the dividend. It is worthy of note that dividend clientele hypothesis propositions, to some degree, refute agency cost and signalling hypothesis. There are two arguments to the clientele hypothesis. Firstly, tax-induced clientele effects suggest that investors are attracted to after-tax returns. Investors in the low tax bracket relying on regular income will tend to be interested in high-dividend stocks. Secondly, transaction cost-induced clientele suggests that investors particularly, wealthy investors, are interested in low payout in attempt to avert transaction costs that comes with reinvesting earnings from dividends because they rely on other assets for the satisfaction of liquidity needs. The agents under this theory have different preference towards dividend based on their needs for aversion. This theory argues that shareholders have direct effect on the price of a security when there is change in dividend of the company, tax which can affect their investment goals. The movement in the stock price of a firm is based on the demand and objective of the shareholders. Some of these investors' demand comes from reaction to tax while others from other policy such as transaction cost. These all have effect on the firm's shares.

The firm's dividend policy is set in a way to suit the type of shareholders (clientele) that it aims to attract. A firm that changes its policies significantly can cause a shift in the number of shareholders (clientele) it can attract, thereby causing a shift in the stock price of the firm. Dividend clientele's investors have preference for dividend to be given out by the company. They make their investment decision based on the company's regular dividend payout policies that goes in line with investment goals. They can go an extra mile in luring the firm to adopt a certain dividend policy. In simple terms, this theory argues that shareholders have direct effect on stock price whenever there is a change in dividend, tax, transaction cost and other policies that affect their investment goals. They decide to buy security when the policy change goes in line with their investment goals.

### **3.2.5. Agency Cost Hypothesis**

Jensen & Meckling (1976) proposed the hypothesis and was later extended by Rozeff (1982). The assumption of no conflict of interest in the M&M hypothesis is questionable under this hypothesis. The management of the firm are different from the shareholders thus leading to many problems. The management of the firm can engage in activities that are not in the interest of the shareholders. This will lead to wastage of resources as well as conflict of interest. In real world, there are problems that may arise between management and owners of capital. Clearly, this hypothesis suggests that dividend payment which leads to reduction excess funds available to management can be used to mitigate agency cost. This theory implies that the more money available to management, the more they are likely to engage in frivolous activities that are of no benefit to the firms and shareholders. This is done in two-folds. First, paying dividends gives firms the opportunity to get access to additional funds from the capital market giving investors avenue to assess financial records of the firm. This practice helps in reducing the agency cost problem among the parties involved. On the other hand, paying dividend reduces the amount of excess fund available to managers to fund their perquisites. Dividend payments of firms reduce cash at the managers' disposal to fund their perquisites thereby mitigating agency cost (Jensen, 1986). In other words, management tend to pay more in dividend to avoid the problem of agency cost. The dividend is paid back to the owners of the firms in order to prevent the agency cost problem. It is expected that management should pay excessive dividends to its shareholders to remove any doubt of using the company's resources for their own personal agenda rather than maximise shareholders wealth. This theory shows that firm pay higher amount of dividend to reduce the agency cost problem within the firm. Having less money as a result of dividend payment by the management helps in reducing the agency cost problem. The higher the dividend payment, the lesser the chance of shareholders thinking management is engaging in activities that are not in their interest.

### **3.2.6. Signalling Hypothesis**

Another reason for the failure of M&M irrelevance hypothesis is the existence of asymmetric information. The M&M assumed that all participants in the market have equal information. In reality, corporate management have access to information than the shareholders of the company (Clayman et al., 2012). Interestingly, this hypothesis

indicates that announcement is an important instrument is an important instrument in the market. Dividend announcement suggests “implicit information” about a firm’s future earnings potential (Al-Malkawi et al., 2015). According to this hypothesis, managers strive to maintain a positive public view in the manner they pay dividends to investors. A decrease in dividend payment pattern may be misunderstood by investors thus sending a negative signal to the company. Hence, it reduces share value of the firm. The announcement of dividend payment signals information relating to future earnings of the firm. This hypothesis stated that a rise in dividend payout firm has good future profitability. Firms will always want to maintain a positive image about their firm by maintaining a consistent pattern of dividend payment. This is believed to inform the shareholders that the firm is of great value and worthy of investment. Any alteration in the pattern of dividend payment by firm is not wanted because it sends out a negative signal that could discourage shareholders from investing in the firm. On the basis of consistent announcement, shareholders can predict the position of a firm whether there would be increase in dividend or not. An increase in dividend is considered a good step as it increases the goodwill of the firm in the eyes of the shareholders and as a sign of good fate. This provides important information about the company performance. Signalling the performance of firms by paying dividend gives the company a positive image in the market. This practice could attract more investors to buying the stock of the company.

### **3.2.7. Life cycle Theory**

This explains the pass through of firms in various stages of lives. This hypothesis stated that firms change their dividend policy depending on the financial needs of each stage. They are less likely to pay more dividends in their growth stage in comparison with firms in their maturity stages (Kajola et al., 2015). This implies that old firms because of lack of growth potentials in attempt to attract many investors pay more in dividends than firms with higher growth opportunities (Myers & Majluf, 1984). In this theory, it is assumed that as firms approach maturity stage, their ability to generate cash overtakes their ability to get profitable investment opportunities. According to this hypothesis, a new firm is faced with investment opportunities but does not have sufficient profit to meet all its financial obligations with its internally generated cash. It becomes difficult for this firms to generate funds externally. Overtime, as these firms approach maturity, their investment



opportunities reduce, there is no much growth in profitability and firms have tendency of generating finance internally than it can invest (Hussain, Md-Rus & Al-jaifi, 2018). These firms start distributing dividends to its shareholders. This theory contradicts the signalling theory.

In other words, the theory is based on the view that corporate firms overtime become mature and their ability to generate cash overtakes their ability to find opportunities for profitable investment. To attract shareholders to the company, it becomes imperative to distribute cash flow to shareholders in the form of dividend. This theory states that payment of dividend among firms depends on the firms' stage in life cycle. It is believed that firms follow a lifecycle from infant to maturity stage. These stages are associated with different investment opportunities, growth rate. The theory hypothesised that firms begin to pay dividend when they expect a fall in their growth rate and profitability in the future.

### **3.2.8. Pecking Order Theory**

The pecking theory propose that firm's favour "retained earnings" for financing new projects than "external sources of finance" and will only employ "external financing" in a situation where "retained earnings" are inadequate. This theory result from the concept of "asymmetric information." The problem of asymmetric information is minimised by internal financing (retained earnings). This shows that external sources of financing (debt or equity) come with extra fees to be incurred. The internal financing is considered to be the cheapest and most convenient for firms' investment. On the other hand, managers also prefer using debt ahead of equity when internal financing is inadequate because lower cost of debt compared to equity. Under this hypothesis, it is argued that firms favour retained earnings financing new projects than external finances. Firms only employ external finance only when retained earnings cannot be enough to finance the projects. Dividend is therefore affected by the available profit available for investment opportunities in the firm. The selection of retained earnings is followed by short term debt and then lastly long-term debt as financing options of projects in hierarchy of choice. Under this theory, a corporate financing comes from three sources and in different order. These sources are internal finance, debt, and equity. Firms gives priority to internal source of funding, followed by debt and then new equity. This theory argues that firms maintain this order and will always subscribe to internal funds to debt and equity when

available. Issuing equity means bring new ownership to the company and companies will always take that as a last option. This theory is premised on asymmetry of information as only the management are aware of the company's prospects, risk, and value.

### **3.3. Empirical Literature Review**

Several research on the determinant of dividend in both developed and developing economies has remained inconclusive. This section reviews the related literature on the factors that determine dividend policy of firms with a view to identify the literature gaps.

Kajola, Desu, & Agbanike (2015) investigated the factors that influence dividend policy decisions of 25 nonfinancial firms on NSE using panel data. They found that profitability and size exert significant positive effect on dividend policy in Nigeria. Further, leverage was found to exert significant negative effect on dividend payment decision of firms. Liquidity, tangibility, and growth opportunity were shown to have insignificant effect on dividend for the pooled OLS result. Their panel result with random effect showed that profitability, size, leverage, and dividend volatility have significant effect on the decision of firms on dividend payment. The result for the panel with fixed effect confirmed the finding in the random effect model. Their findings for profitability are in support of the agency cost and signalling hypothesis in Nigeria non-financial firms dividend policy. In another study for Ghana, Agyemang (2013) showed that ratio of cash to net asset and age have significant effect on dividend. While ROA, growth and tangibility have no significant influence on dividend. The fixed effect model confirmed the results of the random effect. The results suggest that existing financial institutions pay more dividends than newly established firms.

Marfo-Yiadom & Agyei (2011) using panel data for banks in Ghana investigated the determinants of dividend policy. The panel with random effect showed that profitability, age, dividend volatility, collateral capacity and leverage all exert significant positive effects while growth has a negative significant effect on dividend. Risk, ownership, and free cash flow were all shown to have negative insignificant effect on dividend payout. Moreover, the panel with fixed effects revealed all the variables to have positive significant effect except risk, growth and age having a negative relationship with dividend decision of banks in Ghana. The insignificant relationship of free cash flow and ownership was confirmed by the fixed effect model for the bank's decision on dividend

payment. This is also revealed by Nnadi, Wogboroma, & Kabel (2013) who argued that ownership dispersion of firm have no impact on dividend policy. They indicated that agency has a significant negative influence on dividend suggesting that “insider ownership” is a significant factor of corporate dividend. This is consistent with the assertion that the “state-controlled firms” pay more in dividends than “private-owned firms”. They showed that age of firm has positive effect while basic tax rate and market-to-book ratio, a measure for growth has insignificant effect on dividend yield. They also revealed that “debt-to equity ratio and profitability” are the main determinants of dividend yield. This implies that firms with high debt ratio pay fewer dividends.

In a recent study on seven banks in Ghana with the addition of firm specific characteristics, Nkrumah, Ofori, & Anaba (2018) found that profitability, Free cash flow and inflation have positive significant determining power on dividend policy. While leverage, ratio of nonperforming loan to asset and policy rate were found to significantly determine dividend in a negative manner. Profitability measured by “Return on Equity (ROE)”, risk, growth and branches have insignificant effect on the dividend. This suggest that the dividend policy of the banks in Ghana is determined by returns on assets as a measure of profitability, free cash flow, leverage, bank ratio of nonperforming loan to asset, inflation, and policy rate. Similarly, Barros, Matos, & Sarmento (2019) analysed the firm characteristics effect on dividend policy on Euronext stock exchange of non-financial firms. They found out that the percentage shares outstanding in free float raises the possibility of dividend payment by firms which is consistent with the clientele hypothesis.

Livoreka, Hetemi, Shala, Hoti, & Asllanaj (2014) put several economic factors into consideration and found out that corporations decide to retain a large part of their profit in the form of retained earnings to avoid future shocks or uncertainty. On the other hand, they give more dividends during economic prosperity. They also revealed that legal and contractual restrictions etc. also affect dividend decisions of firms. Kaźmierska-Jóźwiak (2015) examined the factors determining dividend payments of Polish listed companies using panel data. They revealed that both leverage and profitability have significant negative determining power on dividend policy. On the other hand, liquidity and firm size have insignificant effect on dividend on the Polish market. In a more extended study, Manneh & Naser (2015) examined the determinants of dividend policy of nonfinancial

institutions in Abu Dhabi. Their results showed that size, profitability, ownership, leverage, free cash flow, industry dummy and risk are significantly related to dividend except growth which has insignificant negative effect on dividend. The signal theory argued that dividend policy very crucial in the operation of any corporation because of its role as an indicator of the state of the corporation's growth.

Using multiple regression model, Fodio (2009) examined determinant of dividend policy of a cross-section of 53 firms on the Nigerian stock market. They found out that "current earnings" and "cash flow" have significant positive effect on dividend policy. The previous dividend was shown to have negative effect on dividend implying that a positive change in past dividend will not lead to a rise in dividend payment. They showed that "investment and net current asset" have insignificant effect on dividend in Nigeria. In the same vein, Yusuf (2019) investigated the dividend decision of 299 companies listed on the Nigeria stock exchange market in the pre-crises, crises and post crises period using multiple regression. A positive relationship between profitability and dividend policies was found for in Nigeria. Similarly, they show a positive relationship between size and dividend in Nigeria implying that bigger firms have costlier management, which might help in preventing principal-agency problems. They found evidence of negative insignificant relation between dividend policy and leverage. Similarly, growth is found to have negative and insignificant effect on dividend policy. There is also insignificant positive association of dividend policy decision with liquidity and risk which is contrary to theory.

Using data for US, Canada, Germany, France and Japan, Denis & Osobov (2008) examined the propensity of firms to pay dividend and whether peculiarities of dividend payers and nonpayers are the same for different countries. Firm size, profitability and earned equity and growth opportunities are shown to determine dividend payment. Also, Ranti (2013) found that profitability, size, leverage and board independence have strong impact on the decision of firms to pay dividend to its investors. Using data for 10 MENA emerging markets, Jabbouri (2016) found size, leverage, growth, current profit, liquidity, free cash flow and market return to have significant impact on the decision of firms to pay dividend. Conversely, future profit and past dividend were found to be insignificant in determining dividend policy. Advancing further in their study, they showed that firms in civil laws countries face pressure paying dividends irrespective of their growth

opportunities. The common law countries are characterised by “legal protection and less information asymmetry”. Therefore, investors in common law countries enjoy such benefits than investors in civil law countries.

Khan, Shah Jehan, & Shah (2017) analysed the effect of “capital gains taxation” on dividend policy. They found that tax has insignificant effect on dividend policy. Two important factors were found to be the significant determinants of dividend policy namely, profitability and leverage. Similarly, Obayagbona & Ogbeide (2018) examined the relationship between corporate taxes, agency cost and dividend policy of 48 nonfinancial firms in Nigeria. Their study highlights the general outcomes of taxes and agency costs on dividends. They found that corporate tax does not have a strong effect on dividends while agency cost was found to exert significant influence on dividend. They argued that the cost emanating from agency conflict of shareholder (external agents) have more effect than cost from agency conflict with directors on dividend payment. Furthermore, they control for some variables to test the effect on dividend. This revealed that institutional ownership, foreign ownership and share prices have significant influence in on dividend policy in Nigeria.

Using a sample firms from US, Benlemlih (2019) assessed influence of firms CSR level on its dividend policy. They found out that firms engaged in social responsibility pay more dividend than firms that does not. They confirmed the finding using the two measures of dividend payment ratios. They showed that “CSR firms are larger with higher cash ratio, lower debt ratio and growth opportunities”. CSR firms are “also more profitable with higher ratio of retained earnings to book value of common equity. Their finding also indicated a positive relationship between CSR and dividend payment. Furthermore, they analysed the relation between individual components of social performance and dividend policy stating that “corporate governance, employee relations, diversity, community and environment” are positively and significantly associated with dividend payment. This suggest that individual components matter for dividend policy and help increase dividend. Conversely, product characteristics was found to have a negative effect on dividend policy. Examining the relationship in a reverse manner, Ebire, Mukhtar & Onmonya (2018) studied the impact of dividend payment on the performance of quoted oil and gas firms in Nigeria. They found that dividend payout, dividend yield and retained earnings have strong effect on the performance of these firms. In a similar

manner, Singh & Tandon (2019) evaluated the effect of dividend policy on stock prices. They revealed that earning per share, dividend yield and profitability of firms have significant effect on the prices of stocks. Dividend per share, profit after tax and retention ratio were shown to have no significant effect on the stock prices of firms.

From recent studies on the determinants of dividend policy reviewed, it is clear that large chunk of the literature are concentrated in the developed economies. The few literatures on the developing economies concentrated on mostly financial institutions with little on the nonfinancial institutions listed on the stock exchange market. However, some studies conducted in Africa show large interest in either financial institutions or nonfinancial institutions with no special attention to combination of both financial and non-financial institutions. There is much to be gained by assessing determinant of dividend of firms in some selected countries because of the fact that African stock market is rapidly evolving. It is evident this will bring an up to date contribution to the dividend literature in Africa. Moreover, the literature on the determinant of dividend policy is far from clear. The significance of this research also results from the fact that few research were undertaken to explore factors that determine dividend in Africa as compared to other economies. This is supported by Black (1976) that the “more we look at the dividend picture, the more it looks like a puzzle with pieces that just do not fit together”. The determinants range from industry to industry, country to country which depend on the development of the financial system. More research that contributes to this unresolved puzzle of dividend policy focus attention on most developed stock markets neglecting the stock markets in developing and emerging economies. It is in these views that the thrust of this research is to analyse the determinant of dividend policy of firms in some selected countries in Africa.

## **CHAPTER FOUR**

### **DATA AND METHODOLOGY**

This chapter contains the selected variables description, model specification, estimation techniques that will aid in examining and analysing the determinants of dividend payout decisions of firms.

#### **4.1. Data Description**

For this research, we will consider yearly data for the 15 years period from 2005 to 2019. The data for all the variables were obtained from Thomson Reuters Refinitiv data base. The nature of the data for this study will be panel data or longitudinal data. In this type of data, the number of listed companies (N) are observed for the 15 years period. The Nigerian stock exchange market has 161 firms listed on its stock exchange market. Only 54 firms were selected due to data shortcomings. For Egypt, 18 companies were selected out of 30 companies listed on the EGX30. South Africa has only 32 companies selected out of 250 companies listed on the JSE.

The choice of variables selection for this study is driven by theory and past empirical literatures (see. e.g., Denis & Osobov, 2008; Ranti, 2013; Kajola et al., 2015; Jabbouri, 2016). The study focuses on the African stock markets. Three performing stock market were selected due to data availability. The rest of the stock market data are not up to date and incomplete. Nigeria, South Africa, and Egypt are the only selected countries for the study. The central thrust of this research filling the research gap in the corporate finance literature by examining and analysing the factors that determine dividend policy in Africa. The research has significant implications for both “theory and practice” for three stock exchange market in Africa, namely, Nigeria, South Africa, and Egypt.

#### **4.2. Unit Root Test**

Interestingly, it is of great importance to test the stationarity of the variables before proceeding to regression. Running regression, the variables must be stationary. In the case where the variables are not stationary, they need to be made stationary by

differencing. The study uses “Levin, Lin and Chu (LLC); Im, Pesaran and Shin (IPS); and Hadri” to test the presence of unit root for the variables.

### 4.3. Panel Regression Test

The estimation technique of this study starts with the explanation of panel test processes. The research examines factors that determine dividend policy using “pooled OLS, fixed effects and random effect” methods. Baltagi (2005) stated that “panel data analysis generates relatively higher level of statistical validity and also helps in reducing the omitted variable bias”. This gives more robust result by eliminating the time-invariant unobserved errors. Furthermore, panel data controls for individual heterogeneity. Compared with time series, panel gives more information and more efficiency. It controls for collinearity and tests more complicated behaviour models (Gujarati, 2003). The generic model is stated thus;

$$y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} + \dots + \beta_k x_{kit} + v_{it} \text{ ----- 1}$$

Where, “i is the unit of observation, t is the time period, k is the kth explanatory variable,  $\beta_0$  is the intercept,  $\beta_k$  is the coefficient of each explanatory variable and  $v_{it}$  is the composite error term”. The error term is composed of two components: an unobserved individual effect and an idiosyncratic error. This is expressed as;

$$v_{it} = \alpha_i + u_{it} \text{ ----- 2}$$

The unobserved individual effect is time invariant while the idiosyncratic error is time variant and varies over the cross-sectional units (Baltagi, 2005). The estimation method of the error leads to the three classification of panel data, namely, pooled OLS, fixed effect and random effect model.

#### 4.3.1. Pooled OLS

The pooled OLS is the basic and simplest method to estimate equation 1. The requires pooling of the data and applying OLS technique by assuming that “the composite error term ( $v_{it}$ ) is not correlated with any explanatory variable ( $x_{kit}$ )” (Gujarati, 2003). This method is expressed as;

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k + v \text{ ----- 3}$$



This method assumes out cross sectional and time effects by running an OLS regression on equation 3. The pooled OLS is faced with some drawbacks. The assumptions of pooled OLS are not realistic because it does account for time and individual-specific effect. This makes it a biased and inconsistent estimator (Gujarati, 2003).

#### **4.3.2. Fixed Effect Model**

The fixed effect model is “used to control for omitted variables that are constant over the period of time and vary across the units (i.e., the unobserved individual effects,  $\beta_i$ )”. The fixed effect assumes the unobserved individual effect ( $\beta_i$ ) to be correlated with the explanatory variables ( $x_{kit}$ ) while the idiosyncratic error to be independent of the explanatory variable (Wooldridge, 2006).

#### **4.3.3. Random Effect Model**

Since the fixed effect model assumes the unobservable individual effect to be correlated with the explanatory variable. However, when “the unobserved individual effect is independent of the explanatory variables, the fixed effect model results become inefficient estimators” (Gujarati, 2003). In fact, the random effect model includes all the assumptions of fixed effect with the addition that the unobservable individual effect component ( $\beta_i$ ) is independent of the explanatory. The random effects model is suitable when “the cross-sectional units are randomly selected from a large population”. The dividing line between the random and fixed effect is that “the time-invariant individual effect ( $\beta_i$ ) is uncorrelated with the explanatory variables ( $x_{kit}$ )” (Baltagi, 2005).

#### **4.3.4. Hausman Test**

The decision of choosing between “fixed and random effects” is done through the Hausman test. The null hypothesis of the Hausman test is that “the preferred model is random effect and the alternative hypothesis being fixed effect”. The Hausman test basically investigate whether “the unique errors are correlated with the regressors”.

### **4.4. Model Specification**

The thrust of this work is to examine the determinants of dividend policy in some selected countries in Africa. Therefore, in order to ascertain the factors that determine dividend

policy for firms. The dividend theories and empirical studies guide the variable selection for this study. The model of this study is specified in the longitudinal form. The model of the study is adapted from the work of Kajola et al. (2015) with some modification and it is stated thus;

$$DVP_{it} = \beta_0 + \beta_1 ROE_{it} + \beta_2 TANG_{it} - \beta_3 GOP_{it} + \beta_4 SIZE_{it} - \beta_5 LEV_{it} + \beta_6 DVOL_{it} + \beta_7 AGE_{it} + \epsilon_{it} \dots 4$$

**Table 1. List of Variables**

Variable	Description	Expected Relationship
DVP	Dividend payout ratio	
ROE	Return on equity used to proxy profitability	Positive
TANG	Tangibility is the basic determinant of investment external financiers in case of default calculated as $\frac{\text{Fixed Tangible Assets}}{\text{Fixed Asset}}$	positive
GOP	Growth opportunities calculated as change in natural log of sales	Negative
SIZE	Firm size calculated as log of sales	Positive
LEV	Leverage calculated as $\frac{\text{Total Debts}}{\text{Total Debts} + \text{Total Equity}}$	Negative
DVOL	Volatility of dividend calculated as changes in dividend payout ratio	Positive

## **CHAPTER FIVE**

### **RESULTS AND ANALYSIS**

This chapter consists of results and analyses of the study. The section will start with the descriptive statistics of the variables of selected countries. Secondly, unit root result will be discussed for the various variables. Finally, pooled OLS, fixed effect and random effect model results would be presented.

#### **5.1. Summary Statistics**

Tables below present the summary statistics of all the variables in this research. Table 2 presenting that of Nigeria, table 3 for South Africa and table 4 for Egypt stock market respectively. From tables below, we observe that the average firm's dividend payout ratio are approximately 6%, 7% and 5% for Nigeria, South Africa and Egypt respectively. The average profitability measured by ROE is shown to be around 11% for Egypt. For Nigeria, ROE is shown to be 18% while South Africa shows ROE value of 27%. The asset tangibility maintains an averaged mean distribution value of about 0.33, 0.45 and 0.34 for Nigeria, South Africa and Egypt respectively. This is the ratio of fixed tangible assets to the total assets of a firm. Tangibility determines a company's ability to finance investment externally. This This implies that about 33%, 45% and 34% of the total asset is represented by fixed tangible assets in the firms on average. The South African stock market is shown to have higher value to external financiers in case of default. The average debt to total firm values dented as leverage for the firms in the three stock markets are 35% for Nigeria, 31% for South Africa, and 27% for Egypt. These firms are not classified as highly geared firms due to a low leverage value. The tables 1 also show that the average growth opportunities of the firms in these stock markets is low. The mean growth opportunities for Nigeria approximately are 2%, for South Africa is 0.7% and for Egypt is 4%. The average age for the firms is 53 for Nigeria, 58 for South Africa and 53 for Egypt.

**Table 2. Summary Statistics for Nigeria**

Summary Statistics					
Variable	Observation	Mean	Std. Devt.	Minimum	Maximum
Dvp	810	6.084	2.789	-3.507	11.384
ROE	810	17.689	77.74	-1806.79	453.58
Tang	810	0.331	0.329	0.00	1.321
Gop	810	0.015	0.043	-0.201	0.423
Size	810	9.865	1.909	3.546	13.429
Lev	810	0.35	1.565	-4.684	42.535
Dvol	810	0.991	9.535	-1.00	143.917
Age	810	52.926	26.387	13.00	125.00

Source: Author's computation using Stata 14

**Table 3. Summary Statistics for South Africa**

Summary Statistics					
Variable	Observation	Mean	Std. Devt.	Minimum	Maximum
Dvp	480	6.833	2.063	-0.223	10.065
ROE	480	26.511	31.761	-182.74	354.6
Tang	480	0.447	0.35	0.00	1.935
Gop	480	0.007	0.05	-1.00	0.147
Size	480	10.031	1.363	0.00	12.472
Lev	480	0.312	0.222	0.00	0.998
Dvol	480	0.411	3.893	-1.00	77.988
Age	480	58.156	42.768	13.00	174

Source: Author's computation using Stata 14

**Table 4. Summary Statistics for Egypt**

Summary Statistics					
Variable	Observation	Mean	Std. Devt.	Minimum	Maximum
Dvp	270	4.511	2.164	0.00	7.901
ROE	270	11.121	144.184	-1772.11	205.1
Tang	270	0.34	0.294	0.00	1.724
Gop	270	0.039	0.225	-0.79	2.433
Size	270	7.337	1.913	1.683	12.987
Lev	270	0.274	0.319	0.00	2.924
Dvol	270	0.145	1.626	-1.00	23.151
Age	270	53.00	34.311	13.00	138

Source: Author's computation using Stata 14

## 5.2. Panel Unit Root Test Results

It is required that variables be stationary as a preliminary check prior to doing a regression analysis. The tables below show the results for LLC, IPS and Hadri. It is observed that the null hypothesis of unit root is rejected for most of the variables at levels for Nigeria, Egypt and South Africa under the LLC and IPS tests. That is the variables are stationary at 5% level of significance. Although, there are conflicts in the findings among the different tests used, the overall results suggest the evidence of stationarity for the variables based on the majority. This mixture of finding is inherent in the panel unit root test. The LLC and IPS have the null that all panels have unit roots with an alternative hypothesis of stationarity. Therefore, it is observed that the null is rejected for most of the variables in this study at all levels of significance. While Hadri test has a null hypothesis of stationarity against the alternative of unit root. Under the Hadri tests, we found majority of the variables to be stationary at levels. Most of the variables are found to be stationary at first difference as compared to other test that found stationarity at levels for most of the variables.

**Table 5. Panel Unit Root Test for Nigeria**

Variable	LLC		IPS		Hadri	
	Lev	1st Diff	Lev	1st Diff	Lev	1st Diff
Dvp	-12.94***	-19.17***	-9.36***	-14.79***	16.17***	-4.83
ROE	-5.0***	-13.07***	-3.25***	-11.90***	2.76***	-6.14
Tang	-2.02***	-5.56***	-----	-----	25.74***	-2.78
Gop	-18.77***	-26.63***	-11.72***	-20.62***	3.20***	-6.09
Size	-13.38***	-14.87***	-6.33	-10.43***	48.42***	3.44***
Lev	10.79	10.80	-----	-----	6.72***	5.09***
Dvol	-11.39***	-15.23***	-8.96***	-16.24***	2.84***	-4.19

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6. Panel Unit Root Test for South Africa**

Variable	LLC		IPS		Hadri	
	Lev	1st Diff	Lev	1st Diff	Lev	1st Diff
Dvp	-9.11***	-55.67***	-6.74***	-19.98***	18.67***	-2.32
ROE	-18.26***	-20.97***	-6.03***	-10.83***	14.63***	1.71***
Tang	-1.96***	-3.48***	-----	-----	13.71***	-0.91
Gop	-10.84***	-13.41***	-8.39***	-13.88***	-0.59	-4.99
Size	-6.02***	-7.85***	-1.56*	-6.75***	17.30***	-4.85
Lev	-0.82	-5.44***	-0.04	-6.74***	24.43***	-0.64
Dvol	-15.55***	-18.87***	-10.37***	-17.88***	-2.63	-5.07

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7. Panel Unit Root Test for Egypt**

Variable	LLC		IPS		Hadri	
	Lev	1st Diff	Lev	1st Diff	Lev	1st Diff
Dvp	-0.36	-3.30***	-1.37*	-8.22***	11.13***	-2.69
ROE	-1.99**	-5.20	-1.56*	-5.57***	16.71***	-3.53
Tang	-59.51***	-55.22***	-----	-----	9.67***	-3.03
Gop	-9.10***	-13.15***	-8.63***	-12.37***	-3.40	-3.956
Size	0.40	-8.22***	2.45	-7.75***	18.85***	-3.4103
Lev	-1.44*	-8.40***	-0.25	-6.27***	6.80***	-2.93
Dvol	-4.09***	-10.75***	-----	-----	-2.25	-3.74

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 5.3. Regression Results for Nigerian Stock Exchange

**Table 8. pooled OLS Results for Nigeria**

Pooled OLS				
Dvp	Model 1		Model 2	
	Coefficient	Prob-value	Coefficient	Prob-value
ROE	0.003***	0.005	0.003***	0.005
Tang	0.462*	0.062	0.464*	0.06
Gop	-3.218*	0.092	-3.228*	0.091
Size	0.784***	0.00	0.784***	0.00
Lev	0.039	0.444	0.039	0.445
Dvol	0.003	0.711		
Age	0.008***	0.009	0.008***	0.009
Constant	-2.26***	0.00	-2.257***	0.00
Mean dependent var		6.084		6.084
SD dependent var		2.789		2.789
R-squared		0.336		0.336
F-test		58.102		67.836
Prob > F		0.000		0.000
Bayesian crit. (BIC)		3680.633		3674.074
Akaike crit. (AIC)		3643.056		3641.195
Number of obs		810		810

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The table 8 above presents the result of pooled OLS for the firms in Nigerian stock market. Model 1 nests all the variables of the study in the estimation while Model 2 eliminates the most insignificant variable from the model through the backward elimination method to check if the result will be more significant. It is observed that profitability exerts a positive and significant impact on dividend payout of the sampled firms. Profitability measured by ROE is found to have a coefficient of 0.003. This implies that a 10% change in profitability will lead to a 3% change in the dividend payout of the firms. This result supports pecking theory and other empirical findings (e.g., Kajola et al., 2015; Manneh & Naser, 2015; Marfo-Yiadom & Agyei, 2011). We also find a significant positive relation existing between dividend payout and the firm's tangibility in Nigeria. The result supports the finding of Marfo-Yiadom & Agyei (2011) that argued that tangibility is positively related with dividend in Ghana.

Moreover, the result also reveals a significant positive relation existing between dividend payout and firm size implying that the bigger a company is, the more likely it is to pay dividend to its shareholders to reduce agency cost problem. The finding supports many empirical studies (e.g., Benlemlih, 2019; Jabbouri, 2016; Manneh & Naser, 2015; Yusuf, 2019). The result further shows a negative significant relation between dividend payout and growth opportunities of firms in Nigeria. The result suggests that firms with less investment opportunities for expansion are more likely to pay dividend to its shareholders. This is in line with previous findings (e.g., Benlemlih, 2019; Jabbouri, 2016; Marfo-Yiadom & Agyei, 2011). Age of firms is shown to significantly affect the dividends payout policy of firms positively in Nigeria. On the other hand, the result suggests an insignificant relation between leverage dividend payout in Nigeria. This supports the finding of Yusuf (2019). Also, there is evidence of insignificant effect between dividend volatility and dividend policy in Nigeria. However, these are shown to be insignificant in determining the decisions of firms to pay dividend to its shareholders in Nigeria during the sample period. In model 2 of the table, dividend volatility is eliminated to check whether the result will have any changes. The result for the study remained without any change.

The pooled OLS result above shows that only profitability, tangibility, size, age and growth opportunities are the significant factors that exert effect on dividend policy in Nigeria. Thus, we conclude based on the result that profitability, tangibility, growth



opportunities, age and size are the significant factors of dividend policy in Nigeria. The results from the pooled OLS might be misleading due to endogeneity problem, measurement errors or reverse causality. The pooled OLS is considered to be an unreliable method. Hence, the study proceeds by estimating the Random Effect regression.

**Table 9. Random Effect Results for Nigeria**

Random Effects				
Dvp	Model 1		Model 2	
	Coefficient	prob-value	Coefficient	prob-value
ROE	0.001	0.284	0.001	0.276
Tang	0.755*	0.09	0.753*	0.091
Gop	-2.656*	0.068	-2.671*	0.066
Size	0.839***	0.00	0.84***	0.00
Lev	0.051	0.203	0.051	0.203
Dvol	0.003	0.696		
Age	0.007	0.39	0.007	0.39
Constant	-2.825***	0.001	-2.834***	0.00
Mean Dependent VAR		6.084		6.084
SD Dependent VAR		2.789		2.789
Overall r-squared		0.332		0.332
R-squared within		0.143		0.143
R-squared between		0.461		0.461
Chi-square		168.067		168.19
Prob > chi2		0.000		0.000
Number of obs		810		810

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The result for the random effect is presented in Table 9 above. The result is in conformity to the findings of the pooled OLS. This suggests that growth opportunities, size and tangibility are the important factors of dividend payout policy of firms in Nigeria. This finding conforms to life cycle, agency cost and pecking theories. In sum, growth opportunities and firm size happen to have the significant power in determining the decision of firms to pay dividend in Nigeria. The direction of the relationship conforms to life cycle and agency cost hypotheses respectively. Other factor such as profitability, age found to be significant for the pooled OLS model are not confirmed by random effects. This suggests that the result confirms the finding of the pooled OLS result for

only tangibility, growth opportunities and size. Overall, the results provide evidence that growth opportunities, tangibility and firm's size determine dividend payout in Nigeria. This supports the findings of Benlemlih (2019) and Jabbouri (2016) that growth opportunities (size) have negative (positive) relationship with dividend payout of firms. The finding of tangibility is in line with Marfo-Yiadom & Agyei (2011) that found tangibility as a determinant of dividend payout in Ghana. The Random effect model is more appropriate and consistent for inference due to the firm specific variables.

#### 5.4. Regression Results for South African Stock Exchange Market

**Table 10. Pooled OLS Results for South Africa**

Pooled OLS				
Dvp	Model 1		Model 2	
	Coef.	p-value	Coef.	p-value
ROE	0.003	0.192	0.003	0.195
Tang	-0.713***	0.002	-0.711***	0.002
Gop	-9.931***	0.000	-9.938***	0.00
Size	0.911***	0.000	0.911***	0.00
Lev	0.798**	0.03	0.795**	0.031
Dvol	0.004	0.852		
Age	-0.0003	0.885	-0.0003	0.882
Constant	-2.235**	0.001	-2.231***	0.001
Mean Dependent VAR		6.833		6.833
SD Dependent VAR		2.063		2.063
R-square		0.351		0.351
F-test		36.459		42.616
Prob > F		0.000		0.000
Bayesian crit. (BIC)		1899.321		1892.183
Akaike crit. (AIC)		1864.931		1862.967
Number of obs		480		480

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The table 10 above shows pooled OLS result for firms in the South Africa. The result shows a positive significant relation between dividend payout and size in South Africa. This finding is consistent with the agency cost hypothesis that firms with a larger management pay higher dividend to mitigate the agency cost problem. The result further

shows significant negative relation between dividend and asset tangibility and growth opportunities. The negative relationship between growth opportunities supports the pecking theory and life cycle hypothesis that firms with higher growth opportunities pay lesser dividend in favour of their investment for growth. This also reveals that firms change their dividend payment depending on the financial need of their current state with old firms paying more dividend to their investors.

The firms' leverage has a significant effect on dividend payout suggesting that the firms make use of debt to generate more profit to offset the cost of capital as well as pay dividend to its shareholders. This contradicts the trade-off theory of capital structure and many studies for emerging markets that found a negative relation between leverage and dividend payout (e.g., Benlemlih, 2019; Jabbouri, 2016; Kaźmierska-Jóźwiak, 2015; Manneh & Naser, 2015; Nkrumah et al., 2018). The finding implies that highly levered firms need less internal finance. This finding suggests the important role of leverage as a determining factor of dividend payout of firms during the sample period. Profitability, age of firms and dividend volatility are found to be insignificant in determining the decision of firms to pay dividend in South Africa. The result did not change because of the backward elimination as can be seen in the model 2 result.

**Table 11. Random Effects Results for South Africa**

Random Effects				
Dvp	Model 1		Model 2	
	Coef.	p-value	Coef.	p-value
ROE	0.004	0.113	0.004	0.116
Tang	-1.468***	0.000	-1.446***	0.00
Gop	-12.341***	0.000	-12.298***	0.00
Size	1.058***	0.000	1.054***	0.00
Lev	-0.47	0.322	-0.453	0.338
Dvol	0.005	0.79		
Age	-0.003	0.43	-0.003	0.431
Constant	-0.003***	0.007	-2.785***	0.007
Mean dependent var		6.833	6.833	
SD dependent var		2.063	2.063	
Overall r-squared		0.333	0.333	
R-squared within		0.211	0.210	
R-squared between		0.524	0.525	
Chi-square		139.021	139.950	
Prob > chi2		0.000	0.000	
Number of obs		480	480	

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The random effect model confirms the finding of the pooled OLS with the omission of leverage among the determinants of dividend payout of firms in South Africa. The random effects model confirms the result for tangibility, growth opportunities and size. The effect tangibility, growth opportunities and size are shown to have determining power on dividend payout in both Model 1 and 2. The result shows a significant negative relationship between growth opportunities and dividend payout. This implies that the more a company's potential for investment opportunities, the less the residual income used to pay dividends to investors. One plausible explanation for this finding is that as most companies have investment opportunities, this reduces their residual income available to them to pay dividends to the shareholders.

Moreover, the positive relation between firm size and dividend policy indicates that the size of firm is an important determinant for dividend payment to shareholders in South Africa. Therefore, investors should take account of firm size (i.e., sales revenue of firms) before making investment in a particular firm. The larger a firm size is, the larger the size

of its management. This could lead to the agency problem because of large management structure. A positive link between dividend policy and size shows that there are little resources available to managers for their perquisites. This finding conforms to the agency cost hypothesis. Interestingly, a negative significant relation between tangibility and dividend policy is found. Overall, the results reveal that tangibility, growth opportunities and size of firms are the key determining factors of dividend policy of firms in South Africa during the sample period for both pooled OLS and random effect across model 1 and 2 respectively.

## 5.5. Regression Results for Egyptian Stock Exchange Market

**Table 12. Pooled OLS Result for Egypt**

Pooled OLS				
Dvp	Model 1		Model 2	
	Coef.	p-value	Coef.	p-value
ROE	-0.0002	0.802	-0.0002	0.821
Tang	-0.627	0.103	-0.605	0.116
Gop	-0.747	0.122	-0.761	0.115
Size	0.643***	0.00	0.649***	0.00
Lev	-2.164***	0.00	-2.152***	0.00
Dvol	0.081	0.225		
Age	0.004	0.254	0.003	0.289
Constant	0.421	0.342	0.389	0.379
Mean dependent var		4.511		4.511
SD dependent var		2.164		2.164
R-squared		0.360		0.356
F-test		21.033		24.249
Prob > F		0.000		0.000
Bayesian crit. (BIC)		1106.535		1102.454
Akaike crit. (AIC)		1077.748		1077.265
Number of obs		270		270

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The table above shows the result for pooled OLS of Egypt. The result shows a negative insignificant association between tangibility and dividend policy of firms. This suggests that irrespective of the tangible assets a firm might have, it does not affect the dividend policy of firms in Egypt. Similarly, there is evidence of insignificant relationship between profitability and dividend policy. This finding is contrary to the result of Kajola et al., (2015), Nkrumah et al. (2018) and Yusuf (2019) that “firm with large profit are likely to pay more in dividends than firms with small profit”. The finding fails to confirm the validity of signalling hypothesis for the firm’s dividend policy. The finding suggest that

dividend payment of firms does not depend on historical earnings and dividends in the past periods. Moreover, the existence of growth opportunities in the firms also has negative insignificant impact on firm's dividend policy. This firms retaining large volume of the profit rather than distribute as profits has no effect on the dividend policy of the firms. This finding contradicts numerous studies (e.g., Benlemlih, 2019; Jabbouri, 2016; Marfo-Yiadom & Agyei, 2011) and the pecking hypothesis. It is expected that firms having higher growth rate in investment opportunities have larger need for funds and pay less in dividends to shareholders as much of their income is retained and utilised for investment activities.

There is an evidence that leverage has a negative and statistically significant relationship with dividend policy at all levels of significance. The coefficient of size is positive and significant. This finding indicates that the size of firms is an important factor determining dividend policy in Egypt. This could mean that most of the firms listed on the Egypt stock exchange are in their maturity stage. The bigger a firm becomes the more likely it is to pay dividend to its shareholders than smaller firms. This finding conforms to the theory of agency cost hypothesis that large firms considered to be matured have easy access to capital than small firms making them likely paying higher dividends in attempt to mitigate agency cost. The result further shows that coefficient of leverage is negative and statistically significant at all levels. The finding suggests that firms with "high debt ratios" tend to pay fewer dividend.

**Table 13. Random Effects Results for Egypt**

Random Effects				
Dvp	Model 1		Model 2	
	Coef.	p-value	Coef.	p-value
ROE	0.001	0.17	0.001	0.153
Tang	-0.101	0.842	-0.059	0.908
Gop	-0.756*	0.066	-0.768*	0.062
Size	0.618***	0.00	0.622***	0.00
Lev	-0.649	0.113	-0.619	0.132
Dvol	0.051	0.328		
Age	0.003	0.753	0.002	0.789
Constant	0.003	0.753	0.028	0.973
Mean dependent var		4.511		4.511
SD dependent var		2.164		2.164
Overall r-squared		0.306		0.300
R-squared within		0.150		0.148
R-squared between		0.416		0.409
Chi-square		57.232		54.902
Prob > chi2		0.000		0.000
Number of obs		270		270

Note. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The empirical finding from the random effect corroborates the importance of firm size as significant determinant of dividend policy of firms quoted in Egypt. The empirical findings provided in table 13 above show that there is a significant positive relation between firms' size and its dividend. This implies that in line with previous studies, larger firms pay high in dividends than smaller firms because larger firms have opportunity of accessing funds easily from the capital market with lower cost and fewer constraints than the small firms. This suggests that firm reliance on internal funding falls with firm size. Therefore, bigger firms have the capacity to pay higher dividends to its investors. Interestingly, the random effect result also confirms the pooled OLS for size in both model 1 and model 2. This result shows inverse significant relation between growth opportunities and dividend policy. This finding suggests that the more a firm needs funds to finance its expansion, the more that firm is to retain most parts of its profit than to pay dividends to shareholders. This result confirms the richly available evidence based on the theoretical proposition of the pecking theory. Conversely, the coefficients of leverage, profitability, tangibility, age and dividend volatility are found to have insignificant relationships with dividend policy during the sample period. This implies these factors do not affect the firm's dividend policy in Egypt. The result for Egypt conforms to the apriori expectation of the agency cost, pecking and life cycle hypotheses. These results

reflect the reality in the Egyptian stock exchange market. The stock market of Egypt has overtime experience stagnation with only a number of big firms listed on the stock market. Irrespective of the incentive put in place to encourage local and international investors, the stock market contribution and performance in the financial structure remains weak. The banking sector has remained the predominant sector in the financial sector comprising mostly banks owned by the government.



## **CHAPTER SIX**

### **SUMMARY AND CONCLUSION**

The purpose of the study is to examine the major determining factors of dividend policy of firms in Africa. The countries in Africa like any other developing economy is characterised by a capital market that is not fully developed. In addition, these economies have corporate governance which determines whether to pay or not to pay dividend to investors. The data of the study spans from 2005 to 2019 for three countries in Africa namely, Nigeria, South Africa and Egypt. 54 companies were selected from Nigeria, 32 for South Africa and 18 for Egypt. The study is limited by data unavailability for some firms in the selected countries and for some countries in Africa. Panel regression of pooled OLS and Random Effect model is used to achieve the objective of determining the factors that affect the decision of these firms to pay dividends to their investors. Dividend payout ratio is used as the dependent variable. The study includes, profitability (roe), tangibility, growth opportunities, sizes, leverage, and age of firm as the explanatory variables in this study. These variables are significant in explaining the dynamics in dividends across the globe.

The empirical results from the pooled OLS reveal that profitability, tangibility, growth opportunities, age of firm and size are the significant determinants of dividends policy in Nigeria. Interestingly, tangibility, leverage, growth opportunities, and size are found to be the most significant determinants of dividend policy in South Africa. The pooled OLS for Egypt shows that leverage and size are the significant factor of dividend policy. On the flip side, under the random effect, the results reveal evidence that tangibility, growth opportunities and size are the important factors determining the decision of firms to pay dividend in Nigeria. In south Africa, the random effect result show that tangibility, growth opportunities, size are the factors determining whether firms pay dividend to investors or not. While growth opportunities and size are shown to be the only determinants of dividend for Egypt. In sum, the significant determinants of dividend policy in Africa are shown to be profitability, tangibility, size, growth opportunities, age and leverage. Given the findings, the study supports the conclusion that growth opportunities and size are the most significant among the factors that determine dividend payment in Africa. As stated by Jabbouri (2016) that “the payment of high dividends is

an effective tool used by large firms, with dispersed ownership and powerful management to show management good faith to investors". This result support the agency cost, life cycle and pecking order hypothesis of dividend since they all associated to revenue of the firm. The results are interesting and intuitive with remarkable similarity across all the countries. Since growth opportunities and size relates to sales, it is concluded that the size of firm's sales revenue determines the decision of firms to pay dividend. Payment of higher dividend helps in reducing the agency cost theory since it is expected that the more dividend is paid, the lesser the funds available to management to finance their frivolous activities. The magnitude of sales of firms comes with their age and size. This study has significant implication for shareholders, policy makers and academicians. Identifying that size and growth opportunities are the main determinants across the countries with different investing environment and economy will improve an investors and policy makers understanding of dividend policy. It can help investors to build up their dividend predictions and make selection of the right valuation models. This helps investors in enhancing their confidence in the market, improve their market activities as they know what drives firm's dividend policy decisions. The belief that corporate governance is critical in the development of financial markets makes this result important for both academicians and policy makers to understand the factors that determines the dividend payment in Africa under a good corporate governance in order to mitigate agency problem. Specifically, the investors in Nigeria should give more attention to size, tangibility and growth opportunities of firm similar to investors in South Africa. While investors in Egypt should pay attention to size and growth opportunities of firms when making decisions. The study helps in the extension of analysis of dividend policy to include growth opportunities and size (size of sales revenue) of firms when deciding their asset portfolio.

The ongoing study of dividend policy is critical for the understanding of the dynamism in dividend payment of firms. The factors that explain the division of firms to pay or not to pay dividend are mostly the from the company fundamentals. There is still paucity of data. However, the direction of future research should expand the scientific knowledge base by introducing some variables relating to Environmental Social Governance and other firm specific variables like composition of board members, ownership structure (Domestic or foreign) etc. In addition, future research could examine the effect of social factors on dividend payment.

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