ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

MASTER OF BUSINESS ADMINSTRATION-FINANCE

DETERMINANTS OF DIVIDEND PAY-OUT RATIO: EMPIRICAL STUDY ON PRIVATE COMMERCIAL BANKS IN ETHIOPIA

Presented in Partial Fulfilment of the Requirements of the Degree of Master of Business Administration in Finance

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Addis Ababa, Ethiopia

Statement of Declaration

I declare that this thesis entitled: Determinants of Dividend Pay-out: Empirical study on Private Commercial Banks in Ethiopia; is my original work, prepared under the guidance of my advisor Sewale Abate (PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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Date _____

Statement of Certification

This is to certify that, **Girma Tessema Yitbarek** has carried out his research work on the topic entitled “Determinants of Dividend Pay-out: Empirical Study on Private Commercial Banks in Ethiopia”. The work is original in nature and is suitable for submission for the award of the degree of Master of Business Administration in Finance at the Addis Ababa University.

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ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

MASTER OF BUSINESS ADMINSTRATION

Declaration

This is to certify that the thesis prepared by **Girma Tessema Yitbarek**, entitled "Determinants of Dividend Pay-out: Empirical Study on Private Commercial Banks in Ethiopia". and Submitted for Partial Fulfilment of the Requirements for the Degree of Master of Business Administration in Finance compiles with the regulations of the University and meets the accepted standards with respect to originality and quality..

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- ✓ Advisor Sewale Abate (PhD) signature _____ Date _____

Abstract:

This research aims to examine the determinant factors of dividend pay-out policy of the stated private commercial banks in Ethiopia. In this study, seven variables such as lending rate, liquidity, growth, asset size, efficiency, profitability and inflation are taken as potential determinants of dividend pay-out policy. Ordinary least square (OLS) multiple regression model was used on a sample of nine private commercial banks for the period of ten years from 2010 to 2019. Quantitative research approach and descriptive research design is employed. While testing the impact of seven independent variables on the dividend pay-out ratio, we concluded that only three can explain the dividend policy. The results show that dividend pay-out ratio is positively and significantly affected by lending rate, but are negatively affected by liquidity and growth. Asset size, efficiency, profitability and inflation do not have a direct influence on the dividend payments. Thus, Lending rate, liquidity and growth are functioning as the key determinants of dividend pay-out of the listed private commercial banks in Ethiopia. As per the findings in this research existing and potential investors as well as the banks management, board members and policy makes should pay their attention on variables(lending rate, liquidity and growth)since they significantly determine dividend pay-out rate of private commercial banks in Ethiopia.

Keywords: Determinants of dividend pay-out, Dividend Pay-out, OLS, Ethiopian commercial banks.

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Acronyms

AIDB	Agriculture and INDUSTRY Development Bank
B.C	before Christ
CBE	Commercial Bank of Ethiopia
CLRM	Classical Linear Regression Model
COVID-19	Corona Virus December-19
EFCY	Efficiency
GR	Growth
INF	Inflation
LR	Lending Rate
LIQU	Liquidity
MM	Miller and Modigliani
MOFEC	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
NPLs	Non- Performing Loans
NPV	Net Present Value
OLS	Ordinary Least Square
PROF	Profitability
PSX	Pakistan Stock Exchange
ROE	Return on Equity
S.C	Share Company

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CHAPTE R ONE

1. Introduction

1.1. Background of the Study

Banks are financial institutions that play a role in the transfer of excess financial resources from depositors to the area of deficit in the economy. Banking business involves collecting funds from the public in the form of demand, saving and time deposits or borrowings from the public, other financial institutions or banks. Banks use such funds in whole or part for granting loans, advances, other credit facilities and for investing in other means. Thus, banks facilitate the saving and capital formation in the economy (Chirwa, 2001).

Moreover, the banking industry is the one critical component of the financial system in developing countries capable of facilitating capital accumulation and economic processes. This is possible through financial intermediation. Banks reduce financial costs while mobilizing resources from depositors to lenders or other users. They transform liquid assets (cash and cash equivalents) in to illiquid assets like loans (Diamond and Rajan, 1998).

Dividend is a reward or return paid to the owners of the company's stock for holding its share instead of other alternatives. A profit earned by a firm needs solutions supported by a policy about how much profit should be paid to investors in the form of dividend and retained in business for further expansion or investment (Nasir et al. 2018). Thus dividend may be considered as cash distributions of earnings made by the company to owners of capital, they are payments made by firms to their shareholders.

The decision of the board of directors about distributing the firm's profit to shareholders or not is guided by the dividend policy (Gibson, 2009). It is the management's practice that follows in making dividend pay-out decision (Lease et al 2000). Among the basic theory of corporate finance, dividend pay-out policy is one of the most debatable issues. Though scholars and researchers presented various theories and empirical studies, the issue is still unresolved and open for further discussion. It is one of the top ten unresolved cases in the finance literature with inadequate explanation for the observed dividend behaviour of firms (Black 1976), (Brealey and Myers 2005), (Allen and Michaely 2003).

1.2. Statement of the Problem

There are no universally accepted findings about the determinants of bank dividend pay-out ratio. This is because countries are different in their economic, political, financial systems and operating environments. The financial service sector in Ethiopia, like most developing countries, is dominated by banking industry. Prior to financial reforms of 1994s, the Ethiopian financial service sector was heavily under the government administrative controls, thus financial system remained under-developed and repressed.

Since 1994, following financial reforms in Ethiopia, the activities of Ethiopian banking industry have been fairly liberalized and the National Bank of Ethiopia (NBE) has set a floor for deposit rate, leaving other rates to be determined by the market. As the result, Ethiopian Commercial Banks are setting different procedures and payment rates including dividend even though they are operating under the same economic environment and subject to the same regulatory environment.

Although discussions were conducted by various scholars at different level regarding dividend payment, it continues to be opened for further study (Nissim &Ziv, 2011). Researchers are interested to know about why firms pay dividends and why investors are interested in it. Companies pay dividends to shareholders as a return for their existing investors and to convince potential investors to invest in. Perhaps investors pay close attention to dividends since through dividends they get a return on their shares or

investment. Firms that do not pay dividend could be considered as a company that might increase the value of shares above the amount gained or lost by dividend (Norhayati, Maz&Sazelina, 2010).This might result in the appreciation of capital more than the dividends they could have missed (Lie, 2005).

Dividend pay-out policy is the most controversial topic within the context of corporate finance. According to Brealy et.al, (2008) dividend policy controversy is one of the ten major unsolved problems of corporate finance which deserves more research in order to increase understanding of the subject.

Researchers studied in Ethiopia with almost the same variables in financial industries come up with different conclusions (Habtamu 2019), (Samuel 2017) and (Karani,2015, Chekole,2016, Dakito &Ravi,2015, Elias,2015, Simegn,2013, Tadele,2017) and other studies on insurance and banking industry of Ethiopia have reached at different significant factors for both industries. Therefore, the researcher has chosen private banking industry of Ethiopian corporate environment, dealing with dividend payment in order to find industry specific and macro factors influencing dividend pay-out.

An increase in some variables like profitability assumed and proved to increase dividend pay-out ratio of banking industry (Tadele,2017, Dakito &Ravi,2015) but this relationship is being rejected by (Theodros,2011, Zelalem,2018, Chekole,2016 and Hosain,2016) studies. With regard to liquidity some researchers like(Elias, 2015, Seifu, 2018, Tadele, 2017) have concluded insignificant relationship with dividend pay-out, while others(Dakito and Ravi, 2015, Simegn, 2013) concluded that there is a negative relationship between them. To clarify such controversy between various researchers, conducting a research on the issue attracts the attention of this researcher.

1.3. Purpose of the Study

This study tries to analyse the financial data of Ethiopian private commercial banks based on annual reports of NBE from the year 2009/10 to 2018/19 in order to investigate the determinants of bank's dividend pay-out ratio and their significance as well as impact on dependent variable by categorizing the variables in to internal bank specific factors and external macroeconomic variable.

1.4. Research Question

The overall research question of the study is, what factors will determine Ethiopian private bank's dividend pay-out rate? This study sought to find answers to the following research questions.

1. Do bank specific variables such as profitability, growth, asset size, liquidity, lending rate and efficiency have significant impact on dividend pay-out rate of Ethiopian private banks?
2. Does inflation have significant impact on dividend pay-out rate of Ethiopian private banks?

1.5. Objectives

1.5.1. General Objective

The objective of this research is to examine the impact of selected factors including profitability, growth opportunities, liquidity, asset size, lending rate, efficiency and inflation on dividend pay-out decision of Private commercial banks of Ethiopia.

1.5.2. Specific Objectives

- Identify and analyse the impact of profitability on dividend pay-out rate.
- Identify and analyse the impact of growth on dividend pay-out rate.
- Identify and analyse the impact of asset size on dividend pay-out rate.
- Identify and analyse the impact of liquidity on dividend pay-out rate.
- Identify and analyse the impact of lending rate on dividend pay-out rate.
- Identify and analyse the impact of efficiency on dividend pay-out rate.
- Identify and analyse the impact of inflation on dividend pay-out rate.

1.6. Research Hypothesis

The following are the hypotheses of this research:

H1: Profitability has Positive and significant impact on dividend pay-out.

H1: Growth has Positive and significant impact on dividend pay-out.

H1: Asset size has Positive and significant impact on dividend pay-out.

H1: Liquidity has Positive and significant impact on dividend pay-out.

H1: Lending rate has Positive and significant impact on dividend pay-out.

H1: Efficiency has Positive and significant impact on dividend pay-out.

H1: Inflation has Positive and significant impact on dividend pay-out.

1.7. Significance of the Study

The findings of this study may provide valuable information and recommendations to different stakeholders as it aims in identifying factors that determine commercial bank's dividend pay-out rates. The findings mainly benefit commercial bank's managers, shareholders, regulators and scholars.

- The study assists private commercial banks to set reasonable dividend policy based on sound financial evidence.
- The study helps management of banks to make them aware and to give due attention about the variables that affect dividend pay-out rate.
- From the shareholder's perspective, the study would assist to increase their knowledge by providing helpful information on their investment decision.
- The study is also helpful in providing adequate information for the regulatory body of financial service industry (NBE) to make informed decisions in policy making.
- Furthermore, the study adds a know how to existing body of knowledge on the determinants of commercial bank's dividend pay-out rate with respect to scholars.

Thus, it serves as a spring board for further studies by providing valuable and suggestive information on area under study. The study would be a source of empirical reference which would provide a ground for further researches.

1.8. Scope of the Study

The scope of the study is limited on analysing the impact of six bank specific and one macroeconomic factor on dividend pay-out rate of private commercial banks in Ethiopia by using ten years financial data of nine banks as a sample to reach at a conclusion about the population.

1.9. Limitation of the Study

Lack of free access to relevant data because of confidentiality, it wouldn't easy to get all respective banks, lack of credible research studies on the topic in Ethiopian context for review, lack of clarity and accuracy relevant information from of ratio analysis report of NBE to take it as it is. The pandemic (COVID-19) has also significant negative impact up on free movement towards looking for useful information from different sources.

1.10. Organization of the Study

This study incorporates five chapters. Chapter one is about the study background, giving an overview idea of dividend and demonstrates the objectives, significance, hypotheses, scope and the method of research employed. Chapter two reviews literature on both theoretical and empirical studies on the bank's dividend pay-out ratios. It will contain an assessment of researches done on bank's dividend pay-out rate and related topics and the variables that influence it. The methodology employed for investigating the quantitative significance of the determinants of dividend pay-out rate will be presented in chapter three. Chapter four will present the results of analysis done and discusses the findings made. Chapter five, finally, will draw conclusions from empirical findings and suggests recommendations for policy consideration and management consumption.

CHAPTER TWO

2. REVEIW OF RELATED LITERATURE

This chapter will discuss related theoretical and empirical literatures on dividend pay-out ratio and factors that determine private commercial bank's dividend rate. It will review information from other researchers that have conducted studies in related field of area and will explain methodologies adopted and findings of other researchers. It also establishes a framework for the study and clearly identifies the gap to be researched.

2.1. Origins and Development of Banking Industry- An Overview

2.1.1. Evolution of Banking –Global History

Although money lending and money changing are very old activities, there are records of loans by Babylonian temples as early as 2000 B.C., when Babylonians developed the system of banking using their temples as banks (Khubchandani, 2000). One finds a reference to the money changers in the New Testament (Hajela, 1987). The 'rudimentary bank practices' found in the Egyptian and Phoenician history (Harish C. 1969, Vaish, 1991). In ancient Rome also, banking was developed on the lines of Greek system (Vaish, 1991, Anil G. 1998).When Romans conquered Greek, the Temple Priests no longer acted as financial agents. The Romans introduced the rules and regulations for the conduct of private banking. The early beginning of investment and commercial banking may be traced to12th Century A.D in Venice and Geneva. Some people opined that the word 'banking' is originated from the German word (Johnson, Iran and Roberts, William, 1982 and Suresh &Sachdeva, 1998) meaning 'a mound or heap of money' (Parameswaran & Natarajan, 2001) which was Italianized into "Banco" (Seth, 1987). Some other opined that the word "Bank" is derived from the French word 'banque' which means a 'Bench' where business is transacted (Ajit Singh, 1986; Parameswaran & Natarajan, 2001). Thus, it is understood that there is no unanimity among the economists about the origin of the word 'Banking' (Vaish, 1991).

The weakening of church restrictions on economic activity during the renaissance and the growth of maritime ties of coastal Italian cities with the Levant set the stage for the rise of Italian merchant banking houses. As these coastal cities grew to be an important conduit for trade with the European interior, some of the larger merchant banks extended their activities to other European countries and carne to dominate international finance from the twelfth through the fifteenth centuries. These family-owned and managed firms are generally viewed as the predecessors of modern commercial banks. In addition to accepting deposits and financing foreign trade, these houses made a market in foreign exchange, extended short and medium-term loans to entrepreneurs, rulers, noblemen, and the clergy, and invested in industrial and commercial ventures (Emmanuel, 1997).

Two of the largest banking houses in the early fourteenth century were those of the Bardi and the Peruzzi located in Florence, the leading banking center of the period, these banks handled extensive financial interests in key European centers. A more prominent bank however was that of the Medici. Established in Florence, in 1397, the Medici bank grew within and outside Italy; by the mid-fifteenth century it had branches in Rome, Venice, Milan, Pisa, Avignon, Bruges, London and Geneva (Emmanuel, 1997).

2.1.2. Definition of Bank

The word “Bank‟ is widely and extensively used and circulated. The "Bank‟ in English carries the same meaning in Bengali. The origin of English word "Bank‟ came into being (when, where and how) which could not be specifically identified. The history regarding the origin of Bank even after the twelfth century is not also clear, that has been based on guesses.

According to some writer the word "Bank‟ was derived from different Authors and Economists have given some structural and functional definitions on Bank from different perspectives:

- “Bank is a financial intermediary institution which deals in loans and advances” **Cairn Cross.**
- “Bank is an institution which collects idle money temporarily from the public and lends to other people as per need.” **R.P. Kent.**

- “Bank provides service to its clients and in turn receives perquisites in different forms.” **P.A. Samuelson**.
- “Bank is such an institution which creates money by money only.” **W. Hock.**
- “Bank is such a financial institution which collects money in current, savings or fixed deposit account; collects cheques as deposits and pays money from the depositors‟ account through cheques. **Sir John Pagette.**

2.1.3. The History of Modern Banking

Banking-experts pass their opinion that banking system was introduced from the primitive stages of human civilization in some way or another in the world. While reviewing historical backgrounds of social, economic and religious activities of ages, origin of modern banking can be better known. From different angles the source and origin of modern banking can be justified:

1. Introduction of Coins:

Coins were used as a means of exchange in ancient times. At the time coins were kept in the hands of religious and local elite persons for the purpose of extending help for the needy poor people than operating in the banking system.

2. Different Civilization:

The existence of banks and coins traced back to different stages of human civilization. During industrial civilization coins were available in Mohenjo-Daro of Pakistan, in Egypt coins were found in mummy of Pyramid. In Bangladesh coins of ancient civilization were found at Moynamati of Comilla and Paharpur of Bogra.

3. Expansion of Business and Trade:

Because of the fact that in the middle age Indo- sub-continent, Middle-East and Europe progressed tremendously and thus banking business improved for their smooth functioning of transaction.

4. The Contributions of Goldsmith, Money-lenders and the Businessmen:

(a) The Goldsmiths:

Goldsmiths, over and above their own activities, used to act as custodians of the surplus funds of the general people of the society. For that reason, they were recognized as a symbol of honesty, sincerity, solvency and security. The receipts which

were treated as deposit slip and acknowledgements on the return of money as cheque were issued by the goldsmith. Later on, these receipts were treated deposit slip and cheque respectively. During the regime of King Charles, the first, in 1640, the reserve funds of the Goldsmiths with London Tower were confiscated and they had to pay penalty for taka two laces pounds. Then they left gold business and got involved with banking business. Thus, the Goldsmiths had a significant role for the development of modern banking.

(b) The Money-Lenders:

The Money-Lenders (Mahajan) also played an important role for the growth and development of modern banking. They used to keep surplus money of the people and refund those in case of need. Later, they took it as a profession. They used to pay interest to the depositors and earn interest on loans. They also used to take security, mortgage against loan.

(c) Businessmen:

Business Class also played vital role for the growth and development of modern banking. From the ancient periods the business class was trustworthy to the general people. They were honest, faithful and solvent. For safety and security purpose, ordinary people used to deposit money to the businessmen. The businessmen of seven-hills of Rome were world-famous.

2.2. Banking in Ethiopia

Ethiopia has a unique historical, cultural, social and economic background in Africa, south of Sahara. It does not share any colonial legacy with neighboring countries (Kiyota, Peitsch, Stern, 2007). Basic changes and convenient arrangements conducive to economic development were brought up in Ethiopia also in the financial sector during the first decades of twenty centuries.

Emperor Menelek II wanted to establish a bank in the country, at that time called Abyssinia (Sellassié, 1932). For understandable motives of national pride, he gave preference to a financial institution at least formally independent rather than to a much easier solution represented by opening a branch office of an expatriate bank. The Emperor contacted envoys from a number of European countries asking all of them for assistance in carrying out the project for a bank (Caselli & Mauri, 1986). While political and financial aspects of the project were being discussed in some European continental countries, the prompt British answer reached Addis Ababa. London was ready to provide assistance in this venture and felt it was best to entrust the task to the National Bank of Egypt, a private bank, under British control registered in Egypt as a limited company (Mauri, 1997; Schaefer, 1992).

An agreement was reached and, on March 11th, a convention for establishing the bank was signed in Addis Ababa by the two parties: The Emperor of Ethiopia and the National Bank of Egypt. The new bank was established in Cairo as a joint-stock company according to the Egyptian commercial law at the end of May 1905. The statute was drawn up bearing in mind all the clauses contained in the Convention of Addis Ababa. The share capital of Bank of Abyssinia was set at pound sterling 500,000.00, divided into 5-pound shares. Of this authorized capital 25 per cent was to be paid-in at the time of the constitution. Cairo was chosen for the registered office of the institution and consequently as the forum for board of directors' and shareholders' meetings.

The statute called for the adoption of the pound sterling as the unit of account of the Bank of Abyssinia, even though most bank transactions would be carried out, as usual in Ethiopia, in Maria Theresa's thalers. This feature was not to have unimportant consequences for the Bank management, since the money of account was on gold standard, while the specie normally used for payments in Ethiopia was based on silver standard (Mauri, 1967).

The opening ceremony for the Addis Ababa head office of Bank of Abyssinia was held on February 15th, 1906 in the presence of the Emperor and his retinue of court dignitaries and diplomatic envoys (Pollera, 1926). From the beginning of its activity Bank of Abyssinia made conscious efforts to build up its administrative organization and lay out a network of branches in the country. The management of Bank of Abyssinia from the very start of the Bank's operations continued Menelek's cause of spreading the use of national currency throughout the country. Efforts were made to establish confidence on the exchangeability of the notes issued by the Bank of Abyssinia and to familiarize the public with its services (Duggar, 1967).

There are five principal events, which may conveniently be taken as dividing Ethiopian banking history into periods. The first event was establishment in 1906 of the Bank of Abyssinia, marking the beginning of banking in the country. The second event was the nationalization of issuing banking decided by Emperor Haile Selassie with the establishment of the Bank of Ethiopia. The third event was Italian colonization in 1936, following liquidation of the Bank of Ethiopia, a broad banking network, extended to encompass all Italian possessions in the Horn of Africa and closely linked with the metropolitan financial system, was set up (Arnaldo, 2003).

In 1943 during World War II after liberation of the country, establishment of the State Bank of Ethiopia, marking the rebirth of the Ethiopian independent banking recorded as third event. The revolution of 1974, which wiped out the monarchy, nationalized companies and shaped a “socialist banking” two-tier model “suited “to Ethiopia, the whole credit system being based on the central bank and three state-owned financial institutions, each of them enjoying monopoly in its respective market was the fourth one. The fifth event was the collapse of socialist regime followed by a financial sector reform and liberalization according to monetary and banking proclamation of 1994 (Arnaldo, 2003).

2.2.1. Financial Sector Reform in Ethiopia

In most African countries at the time of independence, there was no central bank and banking was dominated by foreign-owned commercial banks. After independence, new governments embarked on financial sector reform. This took a variety of forms, but the fundamental objective was increased lending to Africans and African-owned businesses to correct the perceived bias of bank lending in the colonial period (Harvey, 1991).

In Ethiopia, there was a major change of economic strategy in 1975, after the fall of the imperial government, which was in some ways analogous to the changes in economic policy. Nevertheless, government policy on banking in Ethiopia does not really fit these generalizations. Most notably, Ethiopia was not a colony; there was already a central bank in 1975; and at that time, most of the rest of the financial sector was already government-owned. The new Ethiopian government aimed to create a socialist, centrally controlled economy on the Soviet model. The main financial sector reform, therefore, was to direct the government banks to finance a greatly increased public sector (Harvey, 1991).

Government-owned development bank expanded its service into commercial banking, but increased competition, and the increased productivity and improved services which should result from competition, appeared unlikely to result. A small amount of competition was possible from the licensing of new private sector commercial banks, but their success was endangered by inadequate banking legislation and central bank supervisory capacity.

Moreover, economic liberalization began before the fall of the Colonel Mengistu government. Neither then, nor in the statements of the successor government, did financial sector reform appear as a priority [Brune 1994; Transitional Government of Ethiopia, 1992; Hansson1995]. The commitment to continued government ownership of existing financial institutions was extremely strong. The government was also very determined not to allow foreign banks into Ethiopia, not even as minority partners with Ethiopian banks.

The main institutional changes proposed were, therefore, very much less radical than elsewhere in Africa, being limited to the following:

Allow private sector banks to operate, but only if 100% locally-owned; allow the two development banks, AIDB and the Housing and Savings Bank, to become commercial banks and to compete with CBE and each other and gave greater autonomy in lending decisions to CBE, but to keep the three government banks in 100% government ownership.

2.3. Background of Corporate Dividend Policy

As Frankfurter and Wood (1997), corporate dividend has a long history that connected with the development of the corporate form itself. In the early 16th century in Holland and Great Britain, the captains of sailing ships began selling financial claims to investors entitled them to share the proceeds (Walker, 1931). At the end of every voyage, the profits and capital were distributed to investors, liquidating and ending the venture's life. By the end of the sixteenth century, these financial claims began to be traded on open markets in Amsterdam and were gradually replaced by shares of ownership. It is worth mentioning that even then many investors would buy shares from more than one captain to diversify the risk associated with this type of business *(Husam et al, 2010).*

On completion of every voyage, the enterprise liquidation of the venture ensured a distribution of the profits to owners and helped to minimize the possibility of fraudulent practice by captains (Baskin, 1988). However, as the profitability of these ventures was established and became more regular, the process of liquidation of the assets at the conclusion of each voyage became increasingly inconvenient and costly. The successes of the ventures increased their credibility and shareholders became more confident in captains management (Baskin, 1988). The emergence of firms as a "going concern" initiated the fundamental practice of firms to decide what proportion of the firms' income (rather than assets) to return to investors and produced the first dividend payment regulations (Frankfurter and Wood, 1997). Gradually, corporate charters began to restrict the payments of dividends to the profits only.

In the early stages of corporate history, investors prefer other form of financial securities having stable and regular interest payments like government bonds. This event forced corporate managers to realize the importance of high and stable dividend payments.

Early in the 19th century, dividends came to be seen as a significant source of information for investors in addition to the issue of dividend stability. Rather than reports on earnings, investors made their assessment on corporations based on their dividend payments due to scarcity and unreliability of financial data. since they faced inaccurate information about the performance of the company, investors used dividend policy as a method of measuring the views of managements about future performance. Accordingly, an increase in dividend paid resulted in raising the price of stocks. This situation increased the possibility that company's management could use dividends to gesture strong earnings potential to support their share price because investors may see dividend declaration as a signal for profit growth.

Dividend payments to investors are highly related with the development of the corporate form itself. Firm's managers understood the importance of dividend payments in satisfying shareholder's expectations. They believed that dividend reductions might have negative impact on share price and used dividends as an instrument to signal information to the market. From 1950's onwards, the impact of dividend policy on firm value and other issues of corporate policy have been a source of great debate among finance scholars.

In corporate finance, finance managers faced two basic operational decisions namely, investment and financing decisions. The former is about what assets the firm should acquire whereas; the latter is a decision about how these assets should be financed. The decision whether a firm distributes all or part of the profit as divided or retained them in the business is the third decision area. Presumably, in taking any course of action, managers should concentrate on how to maximize the wealth of shareholders for whom the firm is being managed. Managers must not only consider the question of how much of the company's earnings are needed for investment, but also take into

consideration the possible effect of their decisions on share prices (Bishop et al., 2000), (Husam et al., 2010)

2.4. The Concept of Dividend

Dividend is a reward or return paid to the owners of the company's stock for holding its share instead of other alternatives. There are five major types of dividend. These are: (1) ***Cash dividend***- the most common dividend types used. (2) ***Stock dividend-*** is the issuance of company's common stock to its shareholders. (3) ***Property dividend*** – is the payment of non-cash or stock dividend to investors. (4) ***Script dividend*** - is a promissory note (which may or may not include interest) to pay shareholders as a dividend at a later date. This dividend creates a note payable. (5) ***Liquidating dividend***– A dividend issued when the board of directors intends to liquidate a business and return all remaining net assets to investors in the form of cash. Steven Bragg (2018).

The decision of distributing the firm's profit to shareholders or not is guided by the dividend policy. It refers to the clear or implied decision of the board of directors regarding the amount of residual earnings (past or present) that should be distributed to the shareholders of the company (Gibson, 2009). It is the management's practice in making dividend pay-out decision or the size and pattern of cash distribution over time to shareholders (Lease et al 2000).

Dividend policy is a one of the most debated topics and a core theory of corporate finance which still keeps its prominent place. Many researchers presented various theories and uncountable empirical evidences, but the issue is still unresolved and open for further discussion (Black, 1976), (Brealey and Myers, 2005), (Allen and Michaely, 2003).

2.5. Theories of Dividend

Dividend theory is the construction of concepts about the relationship between dividend payment patterns and other causal variables to explain the impact on these patterns. Practical dividend policies are implemented based on observed corporate behaviour. These policies often cannot be fully explained by pure dividend theory.

2.5.1. The Miller and Modigliani Dividend Irrelevance Theory

States that the firm's dividend policy has no impact on firm value or its stock price. This theory is based on the incredible set of assumptions that financial markets are perfect and investors can set their own dividend policy simply by buying or selling shares in the market as they want. If they want cash, they can sell shares without brokerage costs; if they don't they can hold on to their shares. The theory also adopts that there are no brokerage fees or capital gains taxes. Finally, they assume away such things as voting control preferences and any signalling effects resulting from dividend payments (Miller and Modigliani, 1961).

Their argument (dividend policy is irrelevant in determining the firm’s value), relied on the firm's value is determined merely by its basic earning power and its business risk (i.e. its ability to yield risk-adjusted cash flows). Thus the value of the firm depends only on the productivity of its assets, not on how the cash flow from these assets is split as dividends and retained earnings (Al-Malkawi et al, 2010).

MM reason that a firm's decision about dividends is often mixed up with other financing and investment decisions. Optimistic managers about the company’s future profit needs to retain earnings for potential investment. In this case the dividend policy becomes the derivative of the firm's investing decision. If the firm's stock price falls, is it due to the (new) investment decision or the dividend decision needs clarity. In another condition a company may finance capital expenditures largely by borrowing result in cash released for dividends and the firm's stock price will rises. In this case the firm's dividend payment decision and stock price increase are the derivatives of the financing decision (Ross et al, 2002).

Dividend policy to be defined and observe the true relationship with stock price, it is important to separate investing and financing decision from dividend decision. A true dividend policy is one where there is a trade-off between retaining cash flow on the one hand and issuing new shares and paying out cash dividends on the other. However, once the investment and financing decisions are made, the MM version of the "dividend decision" will still leave the value of the firm unaffected. In this stylized MM world, dividend doesn't matter- they are irrelevant (Miller and Modigliani, 1961).

2.5.2. The Residual Theory of Dividend

Though It is not a direct conception of MM theory, it comes to the same conclusion about dividend irrelevance. The amount left over after all acceptable investment opportunities have been undertaken and paid by the firm should be viewed as a residual.

The residual dividend model prescribes the firm's target capital structure as one where the proportions of debt and equity maximize stock price. What if there was a dividend policy that simultaneously considered the firm's target capital structure, its pending capital investment spending program, and the amount of equity needed to fund this investment (Walter, 1956).

Therefore, under a residual dividend policy scheme, the distribution for any period will equal to the excess in net income over the firm's target equity ratio times its planned total capital spending program.

The residual dividend policy proposes that different investment spending plans will lead to different dividend levels and dividend pay-out ratios. The two factors that contribute to this dividend volatility are volatility in net income and varying investment prospects. If the debt/equity ratio is kept at its target percentage the above two factors in combination mean a residual dividend policy will result in volatile dividends.

There are some good things about the residual theory. These are:

A. It guides the company to consider its target capital structure when raising capital for investment and capital budgeting process to exhaust all positive NPV projects in arriving at its optimal investment spending plan.
B. The method reinforces the idea that earnings that cannot be put to work in profitable projects should rightly be returned to shareholders as dividends.
C. While firms should not use the residual model to set yearly dividend pay-outs, they can use the model to set the firm's long-run target pay-out ratio.

The similarity between the MM dividend irrelevance theory and the residual theory, under the residual model the only cash distributions that are made are ones that if used for investment would have a zero NPV, i.e. they can't be used to increase firm value. Dividends distributed as a residual are irrelevant (excluding announcement effects).

2.5.3. The Bird-in- the-Hand Dividend Theory

The bird-in-the-hand theory of dividend takes primarily different view of things. In particular, this theory holds that investors are not unresponsive between dividends today and an equivalent amount of capital gains in the future. Rather they prefer a more certain dividend today to a more uncertain capital gain tomorrow.

What the bird -in -the -hand theory says is that investors discount the expected capital gain yield at a higher rate than the dividend yield. Thus firms that engage in a high dividend pay-out (and thus have a low expected capital gain yield) can pay stockholders who prefer high current pay-out a lower total rate of return than firms that follow a low dividend pay-out. A lower required rate of return results in a higher stock price for firms that match the higher current pay-out pattern desired by bird-in-the-hand investors.

2.5.4. The Tax Preference Theory of Dividend

It states that some investors prefer long-term capital gains to current dividend yield and will pay more for the stock of a firm that plows back its earnings in to capital-appreciating projects instead of paying these earnings out as dividend. Taxes (and the time value of money) are the basis of this preference since stock price appreciation is taxed more favourably than dividend income (Kinfe, 2011).

The time value of money and the tax preference theory reflects the fact that nobody likes tax. The time value of money relationship states that a dollar of capital gain due at some point in the future will be taxed at a later date than a dollar of dividend paid today. This reduces the tax adjusted cost of the capital gain below that of the dividend. In effect investors that follow the tax- preference theory see the firm as a place that their money can grow temporarily(Al-Malkawi et al,2010).

The second reason supporting the tax preference theory is that once capital gains become an inter-generational transfer, the stock is re-priced by the inland revenue authority such that, the capital gain is reduced to zero for recipients of the stock. This results in zero tax. If investors are facing an inter-generational transfer, they will prefer long term capital gains to current dividend payments. The tax preference theory fits this situation.

2.5.5. Signalling Theory

Signalling theory asserts that stock prices do not react to dividend pay-out rate in itself but to the information that investors believed changes in dividend level will be an indication for the prospects of the firm. Outside investors have imperfect information regarding the firms profit opportunities. Dividend is function as a signal of expected future cash flows and increasing dividend payments indicates higher cash flows in the future. Profitable firms only pay dividends, if payments have to be seen as a signal.. Bhattacharya (1979) and John & Williams (1985) explain that dividends alleviate information irregularity between managers and shareholders by conveying internal information of firm’s future prospects.

Akerlof (1970), defines signalling effect as a unique and specific signalling equilibrium in which a job seeker signals his/her quality to a prospective employer. An increase in dividend pay-out may be interpreted as firms have good future profitability (good news), and therefore its share price will react positively and vice versa. Dividends are information signals about the performance of a company which investors use to make decisions. According to Gordon & shapiro (1956), the smoothening hypothesis of dividends by management which predicts that dividends are maintained at a constant rate and any increase are carried out rather cautiously by the firm to avoid significant dividend cuts when the corporate earnings falls.

Ross (1977), states that not all investors are the same they regard dividend changes as a signal of management earnings share price forecasting. It has been observed that the price of a firm's stock generally rises when its dividend is increased and the price will fall when the dividend is cut. Thus, firms are expected to raise dividends when the future earnings are expected to rise. This is because managers have better information on of the firm's performance than the investors. Therefore, dividends act as a signal to investors on the current and future performance of the firm. Generally, a rise in dividend payment is viewed as a positive signal, carrying positive information about a firm's future profitability resulting in an increase in share price. And the reverse is true when dividend becomes reduced.

2.5.6. Agency Cost Theory

Two major factors affecting the agency costs are monitoring costs and the managers risk aversion preference. Agency costs can be reduced by paying dividend to shareholders. The agency costs increase as the free cash flow increases and managers therefore have to pay excessive free cash flows as dividends and therefore dividends can be taken as an instrument to minimize agency costs. Agency problem is created between principals and agents or owners and managers.

Agency theory is centred on the separation of ownership and management role in corporations. Managers are delegates on behalf of the owners of a company to act. The main assumption of this theory is the conflict of interests between managers and owners (Jensen & William, 1976). Such conflicts lead to agency costs (monitoring costs, other costs by the agent to assure the owners that there will be no harm to owner's interest, and finally any remaining loss from differences in agent actions and the owners actions compared to those if the owners take such actions). Based on this argument, dividend is used as an instrument for the protection of excess cash available for managers in excess of investment and operational expenditures. With the excess cash, managers may in good or bad faith invest it in less than desirable investment opportunities, which may have undesirable risk or return characteristics for the investors.

2.5.7. Life Cycle Theory

A firm has relatively well-defined life cycle, which is fundamental to the firm's theory of dividends. It proposed that the financial needs of a company at each stage determine the dividend policy when firms pass through various stages of lives. Firms that are in their growth stages are less likely to pay more dividends as compared to firms that are at their maturity stages since their cash needs vary differently. Old firms expected to pay more dividend because they do not have a lot of growth opportunities that needs fund(Dennis,1972).

2.5.8. Pecking Order Theory

It refers to a priority of financing decisions starting with retained earnings followed by debt financing and finally external equity financing. It states that high profitable firms may use less debt financing than other companies. They have less need to raise funds externally since debt is the cheapest and most attractive external option when compared to other methods of financing sources.

Fama& French (2002), Sunder& Myers (1999), develop an alternative theory known as the pecking order model of financing decisions. The pecking order arises if the costs of issuing new securities overcome to other costs and benefits of dividends and debt. Financing costs include the transaction costs associated with newly issued securities, costs that arise due to management's superior information about the firm's prospects and the value of its risky securities. Pecking order can keep leverage of firms down when investments are persistently large relative to their earnings; as a result, dividend payers can keep their pay-out ratio. Fama& French (2001), find that dividend payers are firms with high earnings relative to investment. Thus, for dividend payers, the prediction of those firms with larger expected investments has less current leverage.

To summarize about the above theories, first let's realize that the idealistic assumptions of MM's irrelevance theory take it out of argument. Clearly real-world experience revealed that there is a relationship between a firm's stock price and its dividend policy. We cannot assume that investors are indifferent between dividend yield and capital gain yield, nor can we assume away the effects of brokerage fees and taxes. Merely, financial markets are not "perfect," a condition up on which the irrelevance theory is established. However, as explained above, there is a real world dividend behaviour that results in dividend irrelevance; it's called the residual dividend model. Therefore, MM's irrelevance theory is not a total waste even with its unrealistic assumptions.

Concerning the bird-in-the-hand and tax preference theories, it is empirically impossible to determine in the aggregate which policy will maximize the firm's stock price. This is because stock price is a function of many factors beyond dividend pay-out. In any collection of firms, you might assemble for study; it is statistically weak to assume you can hold so many diverse variables constant such that the impact of dividend policy can be isolated. However, at the individual investor level these two theories have something to offer in terms of how stockholders behave. Some younger investors do deliberately seek out stocks that have low pay-out and high expected capital gains; the tax preference theory would apply in this case. Some retired or aged investors do value

current income over uncertain capital gains; the bird-in-the-hand theory would explain their behaviour.

2.6. Empirical Review

Gwahula & Wilson (2018), examined the impact of Profitability, liquidity, firm size, growth and financial leverage on dividend payout. Three selected commercial banks listed at Dar e's Salaam stock exchange were investigated for a five years period starting from 2010 to 2016. Findings reveal that profitability, liquidity, growth and financial leverage are statistically significant determinants of dividend payout of the commercial banks while firm size is not a statistically significant variable for determining dividend payout.

Hosain (2016), investigated the impact of eight variables (liquidity, firm growth, previous year's dividends, leverage, profitability, firm size, firm risk and ownership structure on dividend payout of listed private commercial banks in Bangladesh for the period of eleven years from 2005 to 2015. The result shows that dividend payout ratio are positively and significantly affected by liquidity, firm growth, previous year's dividends but are negatively affected by leverage and profitability. Firm size, firm risk and ownership structure do not have a direct influence on the dividend payments. Thus, Leverage, liquidity, firm growth, previous year's dividends, and profitability are functioning as the key determinants of dividend payout of the listed private commercial banks in Bangladesh.

Ishtiaq & Muhammed (2016), explore the influence of financial efficiency, safety, risk and profitability on dividend policy using panel data of 10 commercial banks listed at Pakistan Stock Exchange (PSX) for a period of 9 years from 2006 to 2014. They concluded that safety, risk and profitability are relatively strong measures for defining dividend policy. The result strongly indicated that the safer the banks, the greater payout ratio the bank have. Moreover; banks with higher profitability and lower non-performing loans (NPLs) are believed to pay more dividends.

Karani (2015), examined the impact of profitability, liquidity and size on dividend payout ratio of 27 locally owned commercial banks in Kenya. Data will be collected between 2009 and 2013; findings reveal that there exists a positive and strong relationship between profitability, liquidity and size and dividend payout ratio. This implies that as profitability, liquidity and size of local banks increase, the dividend payout ratio also increases.

Chekole (2016), investigate internal determinant factors of dividend payout in private commercial banks in Ethiopia. The study considers the impact of profitability, liquidity, leverage, growth, size and previous year's dividend on dividend payout. Data will be collected between 2009 and 2014. Findings reveal that last year's dividend, bank size and growth have statistically significant and positive relationship with banks' dividend payout. On the other hand, profitability and leverage have negative and statistically significant relationship with dividend payout of private commercial banks in Ethiopia. However, the relationship of liquidity and dividend payout is positive but statistically insignificant.

Dakito and Ravi (2015), the study was to ascertain what accounts for dividend pay-out in the Ethiopian banking industry taking profit after tax, shareholders fund and liquidity as determinants of dividend payout. His finding indicated that profitability and lagged value of last year dividend had a significant positive effect on the level of current dividend payout of the banking sector in Ethiopia at 1% and 10% respectively. Contrary to this, the impact of Liquidity on the level of dividend payout of the banking industry had a negative effect at 1% significance level as it can be expected in the banking sector because their total operations are based on liquid cash so even in case of high liquidity banks prefer to maintain a substantial amount of liquid cash to smooth out operations. Similarly, shareholders' fund had negative effects on the level of dividend payout of the banking sector in Ethiopia though insignificantly.

Elias (2015), examined the impact of seven variables; profitability, liquidity, leverage, lagged dividend payout, growth, size and risk in Ethiopian private commercial banks. The data collected from the year 2009/10 to 2013/14. The finding indicated that among the seven independent variables; lagged dividend payout, growth, size and risk have statistically significant impact on dividend payout; the rest three variables have no statistical significant impact on dividend payout.

Seifu (2018), explore the impact of capital adequacy, loan to deposit, leverage, liquidity, growth, size and lagged dividend on dividend payout ratio of eight private commercial banks in Ethiopia based on ten years data collected from national bank of Ethiopia from 2007/8 to 2016/17.The finding indicated that among the seven independent variables; lagged dividend pay-out, leverage and liquidity have no statistical significant impact on dividend pay-out while loan to deposit, capital adequacy and size have positive and statistically significant impact on dividend payment and growth have negative statistically significant impact on dividend pay-out.

Simegn (2013), investigates the impact of determinant factors (current earning, previous year's dividend, liquidity, leverage, loan loss provision and bank's age) on dividend policy of banks in Ethiopia. Five bank's ten years data from 2002-2011) were collected and analyzed. The result shows that current earning, previous year's dividend, bank's age and loan-loss provisions have positive and statistically significant impact on the banks dividend payments whereas liquidity has negative impacts and leverage is not an important variable for the banks dividend decision. Unexpectedly liquidity has a negative impact. In Ethiopia, the banks dividend decisions are highly influenced by their current earning and previous year's dividend payments.

Tadele (2017), examined the effect of bank specific variables (profit, leverage, liquidity, retained earnings, loan loss provision, lagged dividend pay-out) and macroeconomic variables (economic growth rate and inflation rate) on dividend pay-out rate. The data covered the period from 2000-2015 for a sample of six Ethiopian private banks. The study revealed that profit, leverage, and lagged dividend payment have positive and statistically significant impacts on dividend policy of Ethiopian private banks while

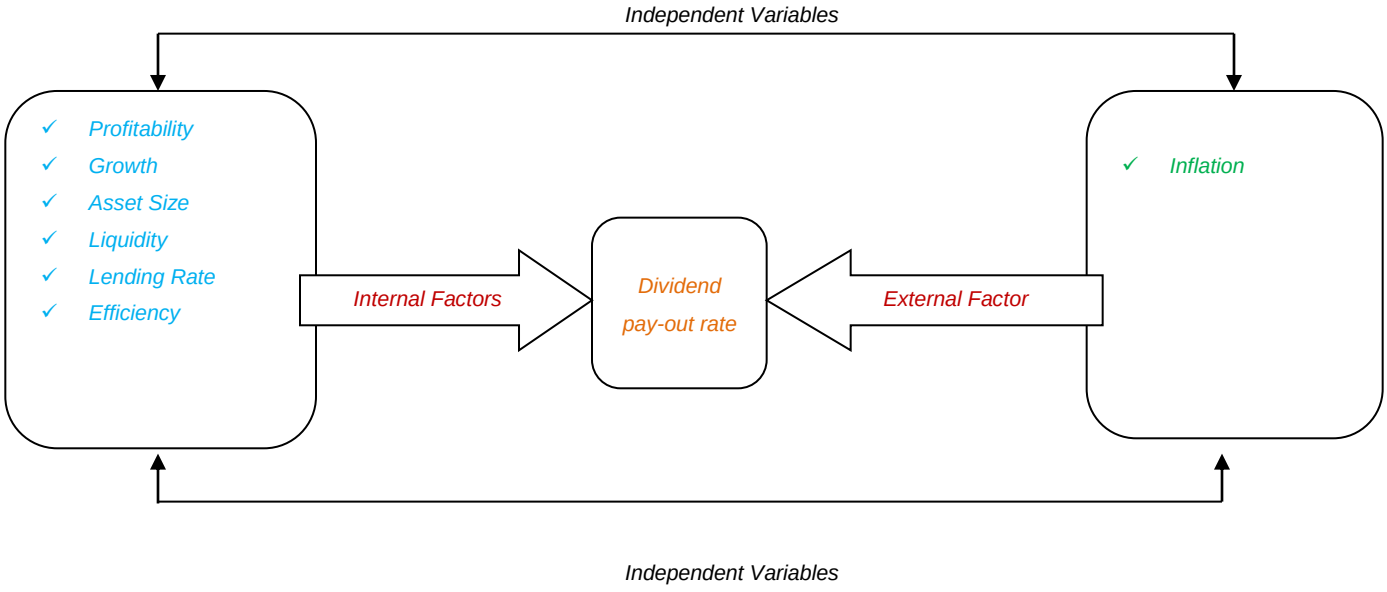
retained earnings, loan loss provision, inflation have negative and statistically significant impact on dividend policy, whereas liquidity and economic growth rate were found to be statistically insignificant and have no any impact on dividend policy of Ethiopian private banks.

Theodros (2011), this paper aimed at investigating factors that determine dividend payout policy in Ethiopian banking industry. The study used five years data from the year 2006 to 2010. Variables considered in the study include profitability, liquidity, leverage, firm size, growth, and lagged dividend per share on dividend payout ratios. Empirical results verified that the firm dividend payout policy is strongly and directly related to firm size and lagged dividend per share, but negatively to the liquidity ratio. However, there is no relationship of profitability, leverage, and growth with dividend payout. Statistically significant variables may indicate that firms pay dividends with the intention of reducing the agency problem.

2.7. Conceptual Framework

Empirical evidences suggest that, bank dividend pay-out rate is affected by internal and external factors. This study has used both internal and external determinants of bank's dividend pay-out ratio jointly which includes; profitability, growth rate, asset size, liquidity, lending rate, efficiency and inflation.

Figure 1 Conceptual Framework



2.8. Research Problem and Knowledge Gap

Dividend pay-out policy is the most controversial topic within the context of corporate finance. According to Brealy et.al, (2008), dividend policy controversy is one of the ten major unsolved problems of corporate finance which deserves more research in order to increase understanding of the subject. No general consensus is found among researchers on the issue.

Studies conducted on determinants of dividend pay-out policy were focused on developed countries where their corporate characteristics are different from developing countries (Badu, 2013). Differences in culture, corporate governance, tax, information asymmetry, investor's attitude, and ownership structure are sources of differences (Ahmed &Javid, 2008), (Al-Malkawi, 2008).

Few studies were conducted on the determinants of dividend pay-out in Ethiopia and even these studies are not recent, like Theodros (2011), Simegn (2013) and Dakito & Elias (2015). This shows that the research conducted on the topic is very limited in Ethiopia, where a lot of share companies are emerging adjacently with the economic growth which demands public investment in these share companies and shareholders expect distribution of profit as a return for their investments. This condition demands more study to be conducted on facts that determine dividend pay-out like profitability, deposit growth rate, bank size, liquidity, leverage, inflation and gross domestic product. Therefore, this study would help to acquire recent information about determinants of dividend pay-out in Ethiopian private banks.

It is also found that some variables relate with dividend pay-out in similar direction. Such as profitability of a firm has a direct relationship with dividend pay-out as proved by (Dakito,2015, Tadele,2017, Karani,2015) but this relationship is being rejected by (Chekole,2016 and Hosain,2016) studies. However, (Elias, 2015 and Theodros, 2011) proved that profitability has no statistically significant impact on dividend pay-out. Same is the case with liquidity. Some researchers have concluded positive relationship like (Hosain, 2016, Karani, 2015 and Chekole, 2016) while some have come up with

negative relationship (Dakito, 2015, Simegn, 2013 and Theodros, 2011).Elias(2015),Seifu (2018) and Tadele(2017), proved that liquidity has no statistically significant impact on dividend pay-out ratio. These conflicting findings demand more research to be conducted that could clarify such relationships.

CHAPTER THREE

3. RESEARCH DESIGN AND METHEDOLOGY

Research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data.

Research design facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding reliable information with lessor expenditure of effort, time and money.

The design which minimises bias and maximises the reliability of the data collected and analysed is considered a good design. The best design result in the smallest experimental errors in many investigations. Similarly, a design which yields maximal information and provides an opportunity for considering many different aspects of a problem is considered most appropriate and efficient design in respect of many research problems. Thus, the question of good design is related to the purpose or objective of the research problem and also with the nature of the problem to be studied.

3.1. Research Approach Adopted

Accurate description of a situation or of the relationship between variables (or in what is called the descriptive studies), accuracy becomes a major consideration. A research design which minimizes bias and maximizes the reliability of the evidence collected is considered a good design.

In addition to the minimisation of bias and maximisation of reliability, the testing of a hypothesis of a causal relationship between variables requires a design which will permit inferences about causality. But in practice it is the most difficult task to put a particular study in a particular group, for a given research may have in it elements of two or more of the functions of different studies.

Therefore, for this study quantitative research approach is used to see the relationship between the dividend pay-out ratio and the bank specific and macroeconomic factors. The quantitative data research relies on the measurement and analysis of statistical data to produce quantifiable conclusions. Quantitative research is a method used for testing objective theories by examining the relationship among variables (Creswell, 2009). Quantitative research is appropriate as the research relies on the measurement and analysis of statistical data for hypothesis testing and statistical tools to analyse them. Thus, due to quantitative nature of data presented in values, the researcher has used quantitative research approach to examine the relationships between dependent variable and its determinants in this study.

Descriptive research studies are concerned with specific predictions, narration of facts and the characteristics of an individual, or of a group. Studies concerned with specific predictions, with narration of facts and characteristics concerning individual, group or situation are all examples of descriptive research studies.

In descriptive studies, the researcher must be able to clearly define, what he wants to measure and its measurement methods along with a clear cut definition of 'population' he wants to study. Since the aim is to obtain complete and accurate information in the said studies, the procedure to be used must be carefully planned. The research design must make enough provision for protection against bias and must maximise reliability, with due concern for the economical completion of the research study.

Therefore, descriptive research design by using balanced panel data to see the regression result analysis with respect to empirical literatures on the determinants of dividend pay-out ratio of private commercial banks.

3.2. Population Size and Sampling Procedure

Population of the Study: Population of the study includes all private commercial banks operating in Ethiopia. According to NBE report, there are sixteen privately owned commercial banks at the end of June 30, 2019. These are: Awash Bank S.C (AWB), Dashen Bank S.C (DB), Bank of Abyssinia S.C (BOA), Wegagen Bank S. C (WB), Hibret Bank S.C (HB), Nib International Bank S.C (NIB), Cooperative Bank of Oromia (CBO), Lion International Bank S.C (LIB), Oromia International Bank S.C (OIB), Berhan International Bank S.C (BIB), Zemen Bank S.C (ZB), Bunna International Bank S.C (BUB), Abay Bank S.C (ABB), Addis International Bank S.C (ADIB), Enat Bank S.C (EB) and Debub Global Bank S.C (DGB).

Sample and Sampling Procedure: In most of descriptive studies the researcher takes out sample(s) and then wishes to make statements about the population on the basis of the sample analysis. Samples may yield accurate information with a minimum research effort. Usually one or more form of probability sampling or what is often described as random sampling, are used.

For some researches, it is possible to collect data for the entire population as it can be manageable and data is available, while for some other researches data is collected on sample bases. Sampling provides a valid alternative when it is impractical to survey the entire population and when there is budget and time constraint to surveying the entire population (Saunders et al, 2009). There are two types of sampling techniques; probability or representative sampling and non-probability or judgmental sampling. (Saunders. et al, 2009).

The sampling technique used in this research is a non-probability (purposive) sampling. As stated by Saunders et al (2009), purposive sampling is often used when working with

small samples and when we wish to select cases that are particularly informative. Thus the researcher used purposive sampling by considering the availability of full data for the proposed ten years' time period.

The study took nine commercial banks as the sample frame to drawing sample size to the research. The selected samples include those commercial banks having at least ten years working experience in Ethiopia as of June 30, 2019 (i.e. from 2010 to 2019). These are: Awash Bank S.C (AIB), Dashen Bank S.C (DB), Bank of Abyssinia S.C (BOA), Hibret Bank S.C (HB), Nib International Bank S.C (NIB), Lion International Bank S.C (LIB), Zemen Bank S.C (ZB), Berhan International Bank S.C (BIB) and Bunna International Bank S.C (BUIB).

According to Brooks (2008), there is no absolute answer for an appropriate sample size for model specification, it is noted that most testing procedures in econometrics rely on asymptotic theory. This theory states that as the sample size closes to the population, the results from the sample estimates are more appropriate for generalizing about the population. Thus, in this case the sample size is above average to the population which enabled to make appropriate generalization to the overall population.

3.3. Data Collection, Presentation and Analysis Technique

3.3.1. Data and Data Collection Instruments

In a descriptive study the first step to ensure that the data to be collected are relevant is specifying the objectives with sufficient precision. If this is not done carefully, the study may not provide the desired information. Then the question of selecting the methods by which the data are to be obtained. In other words, techniques for collecting the information must be devised.

When designing data-collection procedure, adequate safeguards against bias and unreliability must be ensured. The collected data should be complete, comprehensible, consistent and reliable. Also it must be processed and analysed based on the planned procedures.

The study uses bank-specific micro and economy-wide macro data spanning the period from 2010 to 2019 on annual basis. The micro data cover a range of variables from commercial banks income statement and balance sheets as reported to the National Bank of Ethiopia. The macro data include inflation. These variables are used to control for possible economy-wide effects on dividend pay-out ratio that may not be captured in the micro bank specific data. Thus, only secondary data was used for the study.

The data collected are then arranged in a panel data which is the two-dimensional data, namely time series and cross section, so that, it can provide more information needed in the study.

Appropriate data collection techniques will help researchers to combine the strengths and reduces some data inadequacies which enabled to minimize the risk of irrelevant conclusion. Using proper data collection instruments enhance the credibility and value of research findings (Koul, 2006). Data were collected from audited financial statements of each commercial banks approved and disseminated by NBE, various journals and publications of MOFEC and Central Statistics Agency of Ethiopia for macroeconomic data from 2010 to 2019. All data collected for each variable were expressed as of June 30th of each year under study on annual basis.

3.3.2. Data Presentation and Analysis

Statistical computations (averages, percentages and various coefficients) are required for analysis to be conducted. The appropriate statistical operations, along with the use of appropriate tests of significance will be carried out to safeguard the drawing of conclusions concerning the study. Finally, reporting the findings which is the task of communicating the findings to others and the researcher must be done in an efficient manner.

3.4 Variable Description, Measurement and Hypothesis of the Study

3.4.1. Dependent Variable

Dividend Pay-out Rate (DIVPO):

The dependent variable used in this study is the dividend pay-out rate (DIVPO), defined as the dividend paid divided by net income times 100 (Rozeff, 1982). This variable measures the percentage of the company's earning distributed to shareholders.

$$DIVPO = \frac{\text{Dividend Paid}}{\text{Net Income}} \times 100$$

3.4.2. Independent Variables

Though there exists various determinant factors for the dividend decisions, the explanatory variables included in this study are profitability, growth, asset size, liquidity; lending rate, efficiency(micro variables) and inflation (macro variable).

I. Bank Specific Variables

- **Profitability(ROE):**

Profitability has been found as one of the most important determinants of the firm's ability to pay dividends. The pecking order theory, which explains how companies prioritize their financing sources, states that firms prefer to use internal funds. When internal funds are insufficient to meet financial needs, firms turned to debt (first to risk free, then risky debt), and finally equity (Myers and Majluf 1984). Myers (1984), suggests that this behaviour may be due to the cost of issuing new equity. This theory predicts that the relationship between profitability and leverage is negative. Firms with high profitability generate sufficient amount of earnings and are more able to have retained earnings. Regarding the pecking order theory, the firms with higher profitability, which use retaining earnings as capital sources would pay less dividends.

As cited by Malajiany &Khoury (2014), Profitability, in this study, is measured as return on equity or net income divided by total equity (Freeman et al., 1982). It is a measure of an organization's profitability, through an assessment of the profit that has been generated by the organization from the money invested by the shareholders in the organization. It has been found as one of the most essential determinants of dividend pay-out policy (Lintner, 1956; Pruitt & Gitman, 1991; Deangelo et al., 2004; Amidu & Abor, 2006). As per signalling theory of dividend policy, profitable firms are willing to pay higher dividends to convey their good financial performance (Bhattacharya, 1979; Chang & Rhee, 1990; Ho, 2003; Aivazian et al., 2003). Therefore, a positive relationship is expected between firm's profitability and its dividend payments.

$$ROE = \frac{\text{Net Income}}{\text{Total Equity}} \times 100$$

- *H1: Profitability has positive and significant impact on dividend pay-out impact.*

- **Asset Size(SIZE):**

According to Joseph (2001), firm size is computed by the natural logarithm of total assets as used by Gill et al (2009) and is included to account for size variability. Large companies tend to be more competitive, with access to capital, better credit rating, and more customers, which will enhance their profitability and increase their capacity to pay higher dividends (Dickens et al. 2002). Supporting this logic; Lloyd et al. (1985), Jensen et al. (1992), Redding (1997), Holder et al. (1998), Fama and French (2001), Aivazian et al. (2003) and Sawicki (2005) found a positive relationship between dividend pay-out policy and firm size.

$$\text{Asset size} = \text{Natural log of TA}$$

- *H2: Asset size has positive and significant impact on dividend pay-out rate*

- **Liquidity (LIQU):**

Liquidity condition of banks affects dividend decisions. It is measured by the loan to deposit rate. Signalling theory supports the positive relationship between liquidity and dividend pay-out. Highly liquid firms able to pay higher dividends than less liquid firms (Ho, 2003). Furthermore, agency theory of cash flow, Jensen (1986) argued that firms with high cash flows pay higher dividends in order to diminish the agency conflict between managers and shareholders. Otherwise managers may follow their own personal agenda and maximize their personal wealth instead of maximizing the wealth of shareholders (Christopher & Rim, 2014). The study expects a positive relationship with the banks dividend pay-out rate.

$$\text{Liquidity} = \frac{\text{Loan}}{\text{Total Deposit}} \times 100$$

➢ *H3: Liquidity has positive and significant impact on dividend pay-out rate.*

- **Lending Rate (LR):**

Lending rates are the prices that borrowers paid when taking loans from the lenders. It is the interest rate in which banks levied on borrowers. It measures the implicit earnings of the bank from interest bearing activities. The lending interest rate on banks may vary depending on the tenure of the loan, the type and value of collateral, the economic sector of loan, etc. As result, it is advisable to take the average. For the purpose of this study, lending rate is defined as interest income from loans and advances as a fraction of total loans and advances. Thus, lending rate is calculated by taking interest income from income statement and loans and advances from balance sheet of commercial banks (Habtamu, 2019).

As the lending rate increases, the profitability of the bank will also increase. Since income from interest is the primary source of profitability for banks. Thus this study will expect a positive relationship between lending rate and dividend pay-out.

$$\text{Average Lending Rate} = \frac{\text{Interest Income}}{\text{Loan and Advances}} \times 100$$

➢ *H4: Lending rate has positive and significant impact on dividend pay-out rate.*

- **Growth(GR):**

In this study growth opportunity is measured by a change in revenues of the commercial banks from both interest and non interest as a proxy for growth opportunities. Whenever the firm grows rapidly, there is a need of more funds in order to finance the expansion, thus more funds will be retained for the expansion and no or very low dividend will be paid (Raphael & Mnyavanu, 2018, Chang &Rhee, 1990). Firms with higher growth prospects are likely to retain a greater portion of their earning, resulting in lower dividend pay-out rate (Higgins, 1972; Rozeff, 1982; Jensen et al., 1992; Alli et al., 1993; Mohammed et al., 2006) as cited by (Maladjian & Khoury, 2014).

Therefore, this study expects a negative relationship between growth opportunities and dividend pay-out. It is measured by:

$$\text{Growth} = \frac{\text{Current Revenue- Previous Revenue}}{\text{Previous Revenue}} \times 100$$

➢ *H5: Growth has positive and significant impact on dividend pay-out rate.*

- **Efficiency (EFCY):**

It is the rate of non-interest income in relation to the amount of non-interest expense. In banking sector, non-interest income and expense is not the principal source of revenue and expense respectively. A higher efficiency rate designates an increase in profits and hence resulting in a higher dividend pay-out rate and vice versa. A reduction in non-interest expense also has the same consequences in the form of appreciating dividend pay-out rate. This ratio shows the efficiency of a bank; whether it is capable to generate non-interest income or not. The lower the rate the lessor the bank dividend payment will be. Thus efficiency is positively correlated with dividend pay-out.

$$\text{Efficiency} = \frac{\text{Non Int. Income}}{\text{Non Int. Expense}} \times 100$$

➢ *H6: Efficiency has positive and significant impact on dividend pay-out rate.*

II. Macro-Economic Variable

- **Inflation(INF):**

Inflation is defined as the general (persistent) upward price movement of goods and services in an economy (often caused by an increase in the supply of money), usually measured by the consumer price index and the producer price index. Over time, as the cost of goods and services increase the value of a currency is going to fall because a person won't be able to purchase as much with that currency as he/she previously could (Mambo 2010).

Inflation is important macroeconomic variable which may affect bank's lending rate. This variable is an indicator of the cost of doing business in an economy. Inflation is an increase in the general price level and is typically expressed as an annual percentage rate of change. Inflation depreciates the value of money (Habtamu, 2019).

Earlier studies conducted have a mixed opinion on the effect of inflation on dividend pay-out. Due to the nominal increase in the volumes of money, which result from the increase in inflation, at least for a short run, some studies have concluded that inflation has a positive effect on dividend pay-out. However, in the long run, studies in general seem to show that the inflation rate and stock returns are negatively related. This study, which considers a sample of all the firms that consistently paid dividend between the year 2002 to 2011 and were listed at the Nairobi Security Exchange showed that, inflation rate has no impact on the dividend pay-out (Elly & Hellen, 2013).

Brigham &Daves (2010), as cited by Elly & Hellen (2013) observed that, expectations for future inflation are closely, but not perfectly, correlated with rates experienced in the recent past. Therefore, if the inflation rate reported for the last month increases, investors often raise their expectations for future inflation, and this change in expectations will cause an increase in dividend pay-out (Brigham & Daves, 2010).

Investors would like to receive larger cash dividends because of inflations. But from the firm point of view, inflation causes it to have to invest substantially more to replace existing equipment, finance new capital expenditures, and meet permanent working capital needs. Thus in inflationary times, there may be a tendency to hold down cash dividends. Inflationary environment compels companies to retain major part of their

earnings and indulge in lower dividends. As the price rise, companies need to increase their capital reserves for their purchases and other expense.

- *H7: Inflation has positive and significant impact on dividend pay-out rate.*

Table 1 Summary of explanatory variables and their expected effects on the dependent variable.

Variables	Symbol	Operational Definition	Expected Sign
Dependent Variable			
Dividend Pay-out Ratio	DIVPO	Dividend paid/ Net Income	NA
Independent Variables			
Profitability(ROE)	PROF	Net Income/Equity outstanding	+
Firm Size	SIZE	Natural logarithm of total Assets	+
Liquidity	LIQU	Loan/Deposit	+
Lending Rate	LR	Interest Income/Loan and Advances	+
Growth	GR	(Current – Previous Revenue)/Previous Revenue	-
Efficiency	EFCY	Non-interest income/ Non interest Expense	+
Inflation	INF	Annual general consumer price index	-

- (+) When the independent variable increases (decreases),the dependent variable will also increase(decrease).
- (-) When the independent variable increases (decreases),the dependent variable will (decrease) increase.

3.5. Model Specification

It could be noted from the previous sections; that dividend pay-out of private commercial bank is determined by some micro and macro factors. Thus in respect of the hypotheses stated above, the main issue is an investigation of relationship that exists between dividend pay-out of banks and each of the explanatory variables (profitability, size, liquidity, leverage, growth, inflation and gross domestic product) that had been identified through literatures and theories. Other factors that are not explicitly included in the model were captured by the error term in the model.

The nature of data that was used in this study is panel (longitudinal) data which incorporates both cross-sectional and time-series elements; the cross-sectional element is reflected by the different Ethiopian private commercial banks and the time-series element is reflected in the period of study (2010-2019). The advantage of panel data is because it contains more information; it incorporates variability among cross section units and across time (Gujarati, 2004).

According to Brooks (2008), a panel data will contain information across time and space and it measures some quantity about them over time. The advantage of using panel data is to address a broader range of issues and tackle more complex problems than would be possible with pure time series or pure cross-sectional data alone.

In order to investigate the determinants of bank specific and macro-economic variables of private commercial banks dividend pay-out, the general multivariate regression model was adopted.

$$Y_{it} = \alpha + \beta X_{it} + u_{it}$$

The subscript "I" denote the cross- section and "t" represent the time-series dimension. The left hand variable, Y_{it} is the dependent variable, α is intercept term, β is coefficient which represents the slope of the explanatory variables and X_{it} is a vector of the explanatory variables for bank i in time t, t= 1, T; i = 1, N and U_{it} is the error term.

Therefore, the model which incorporates all of the variables to test hypotheses of the study is;

$DIVPO_{it} = \beta_0 + \beta_1$ (PROF) $it + \beta_2$ (SIZE) $it - \beta_3$ (LIQU) $+ \beta_4$ (LR) $it - \beta_5$ (GR) $+ \beta_6$ (EFCY) $t + \beta_7$ (INF) $t + \delta i$

Where;

- ***DIVPO*** $_{it}$*: is dividend pay-out proxies as a fraction of dividend paid to net income after tax of* i^{th} *bank on the year t.*
- ***(PROF)*** $_{it}$*: is the rate of net income to shareholder's equity of* i^{th} *bank on the year t*

- ***(SIZE) it:*** *is the natural logarithm of total assets of ith bank on the year t.*
- ***(LIQU)****: is the rate of loan to deposit of* i^{th} *bank on the year t.*
- ***(LR) it:*** *is the rate of interest Income to Loans and Advances of* i^{th} *bank on the year t*
- ***(GR)****; is the growth rate of revenue of* i^{th} *bank on the year t.*
- ***(EFCY)****: is the rate of Non-Interest Income to Non-Interest Expense of* i^{th} *bank on the year t.*
- ***(INF):*** *is the inflation rate in Ethiopia on the year t.*
- *: is disturbance term on individual specific effect.*
- β_0*: is constant.*

CHAPTER FOUR

4. DATA PRESENTATION AND ANALYSIS

4.1. Introduction

In this chapter, detail analysis about the descriptive statistics and regression results has been made. It includes descriptive analysis of variables on the distribution of the data by banks and across time, the correlation analysis that shows the degree of association between variables, the classical linear regression model assumption diagnostic test results and the regression analysis and discussions on regression analysis.

4.2. Descriptive Statistics Analysis

The dependent variable used in this study was dividend pay-out rate of private commercial banks (DIVPO) while explanatory variables are efficiency (EFCY), growth (GR), liquidity(LIQU), asset size of banks (SIZE), lending rate(LR) profitability(PROF) and inflation(INF).

Table 2 Descriptive statistics of dependent and independent variables.

	DIVPO	EFCY	GR	LIQU	LR	PROF	SIZE	INF
Mean	46.6344	3.1015	59.7587	62.2433	12.1461	22.1040	384.6112	13.5420
Median	48.2500	1.6100	32.4200	61.4750	12.3150	21.4900	391.8850	9.9800
Maximum	89.9700	9.9800	1092.96	80.0000	15.7600	42.4300	493.6900	33.2500
Minimum	0.0000	0.5700	0.0000	47.1800	8.9600	-8.2100	222.0400	7.26
Std.Dev.	21.2524	2.6539	137.2783	7.5249	1.4698	8.0499	50.1201	8.1931
Observation	90	90	90	90	90	90	90	90

Source: Eviews outputs and estimation of research data 2010 -2019.

A descriptive statistic for all the regression variables is presented in Table 4.1 above. The descriptive statistical analysis as depicted in the table represents the average results and standard deviation of the variables computed as extracted from Ethiopian private commercial bank's audited statement of nine banks between the years 2010-2019. The average Dividend pay-out rate is 46.63%. This means that on average, each bank paid about 47% as dividend. ROE which was used to measure profitability of the listed banks ranges from -8.21% to 42.43% with a mean value of 22.1% and standard deviation 8.05%. This means that firms pay about 22.10% of their ROE as dividends to shareholders.

Efficiency, that was measured using total non-interest income divided by total non-interest expense ranges from a minimum of 0.57% to a maximum of 9.98%. It has a mean of 3.10% with standard deviation of 2.65% from its mean value.

Growth, which was measured as a rate of the growth of revenue has been used in the analysis of the study ranges from 0.00% to 1092.96%. It has a mean of 59.76 with standard deviation of 137.28% from its mean value.

Liquidity, measured as a percentage of total loan to deposit. It ranges from minimum value of 47.18% to a maximum of 80% with a mean value of 62.24% and standard deviation of 7.52%.

Lending rate of commercial banks measured as a rate of interest income on loans and advances to total loan and advances ranges from its minimum value of 8.96% to its maximum 15.76%. It has a mean of 12.15% and standard deviation of 1.45%.

Asset size of banks measured by the natural logarithm of total assets shows a minimum value of 222.04% and maximum of 493.69% with a mean value of 384.61% and standard deviation of 50.12%.

Inflation manifested 7.26%, 33.25%, 13.54%, and 8.19% of minimum, maximum, mean and standard deviation values respectively.

4.3. Trend Analysis of Research Variables

Trend analysis is a technical analysis of the movement of variables based on the past data. This analysis establishes a pattern for research variables and their relationship with dependent variable, dividend pay-out of commercial banks.

4.3.1. Trend Analysis of Dividend Pay-out

This analysis establishes a pattern for dividend pay-out of private commercial banks operating in Ethiopia during the study period from 2010 to 2019 by taking an average rate. In the figure the level of dividend pay-out rate is presented on Y axis and the time is on X axis. Dividend pay-out was measured by taking average of 9 private commercial banks which are selected in the study for each year.

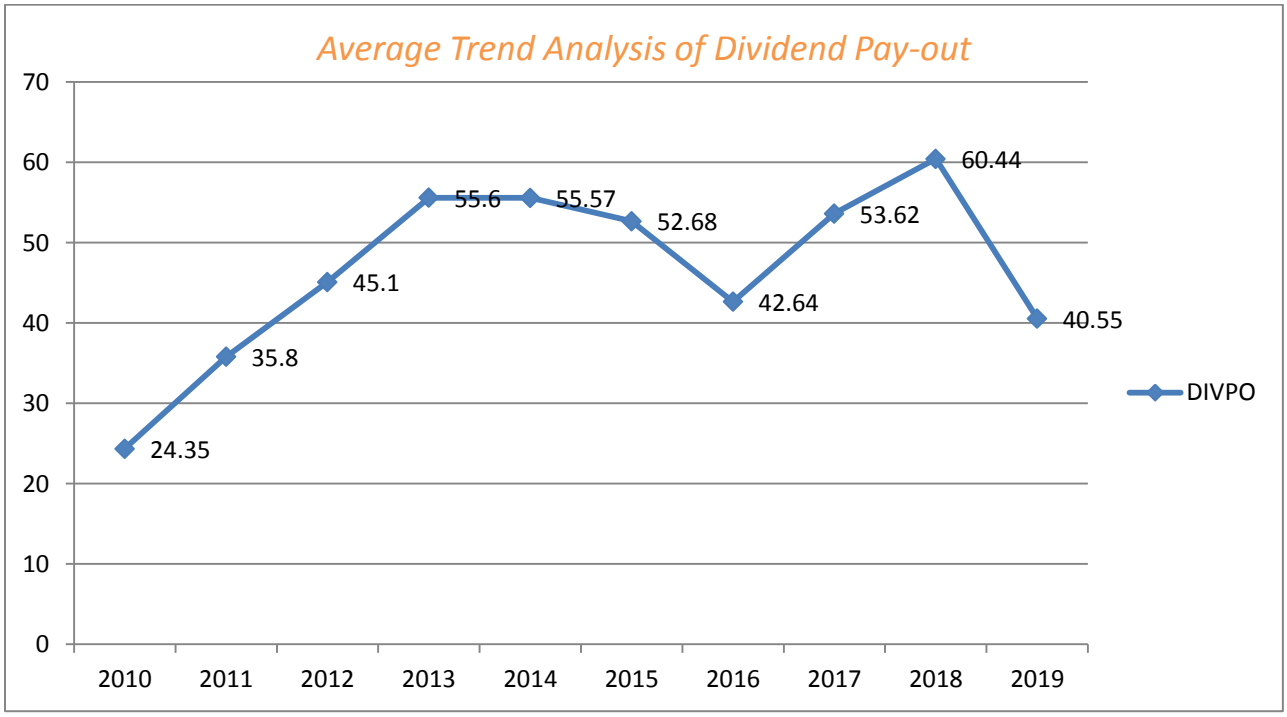


Figure 2 Trend Analysis of Average Dividend Pay-Out of Private Commercial Banks from 2010 to 2019.

4.3.2. Trend Analysis of Independent Variables

This analysis tried to show the relationship between dividend pay-out rate and independent variables through graphical presentation.

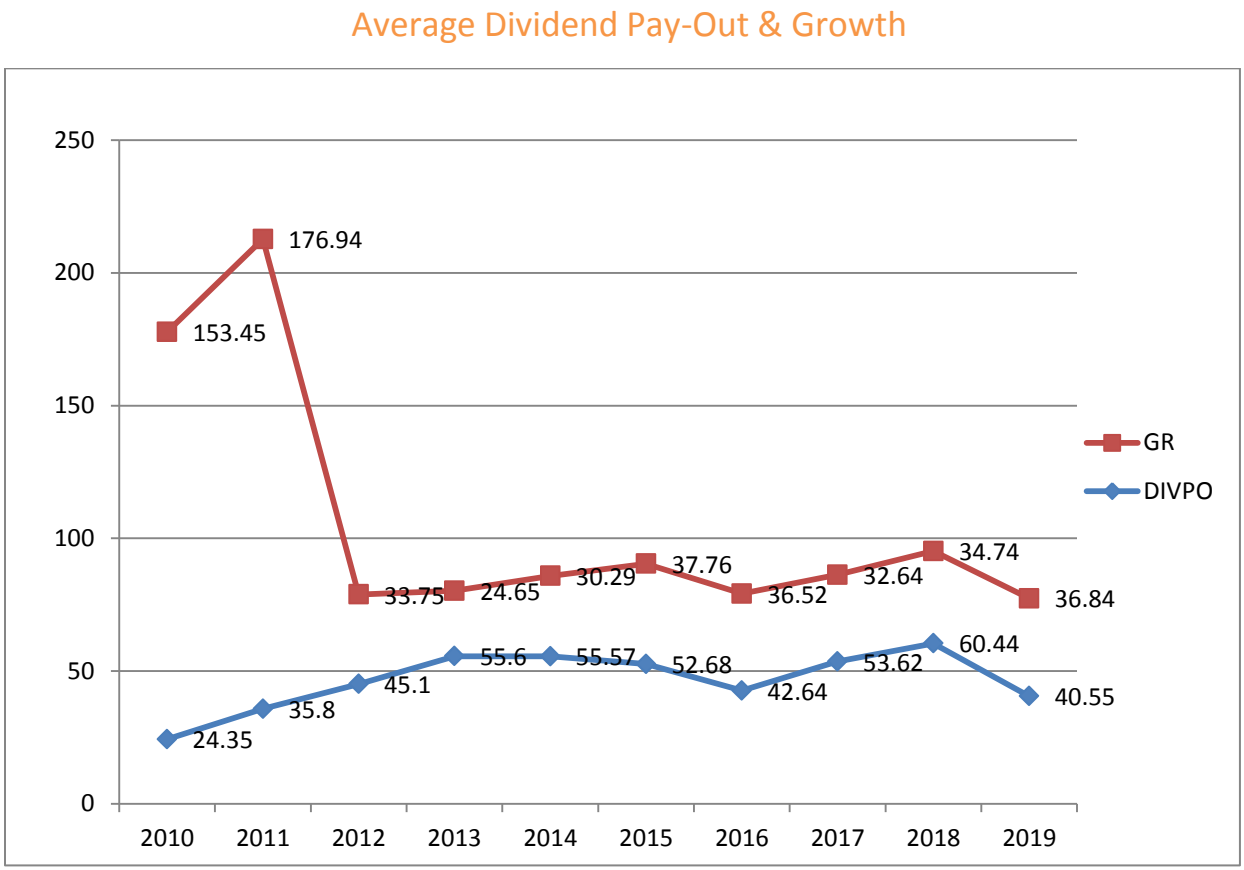


Figure 3 Relationship between dividend pay-out and growth.

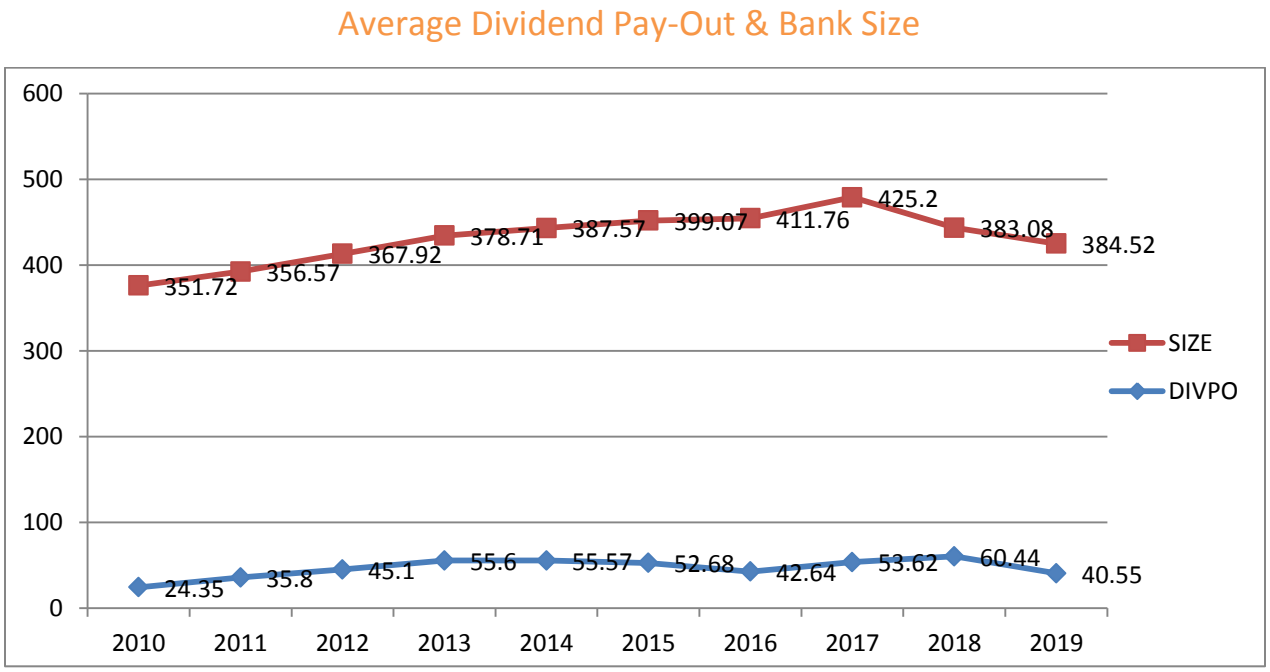


Figure 4 Relationship between dividend pay-out and bank size.

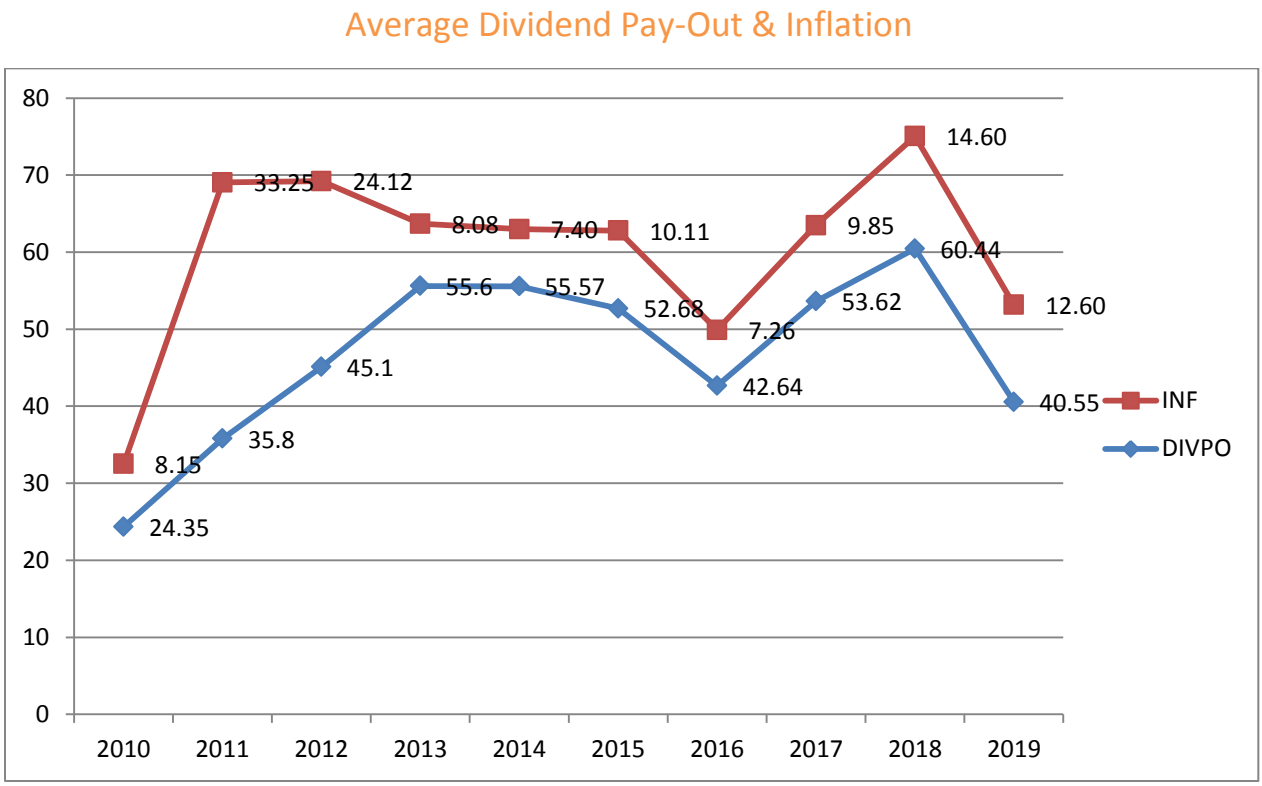


Figure 5 Relationship between dividend pay-out and inflation.

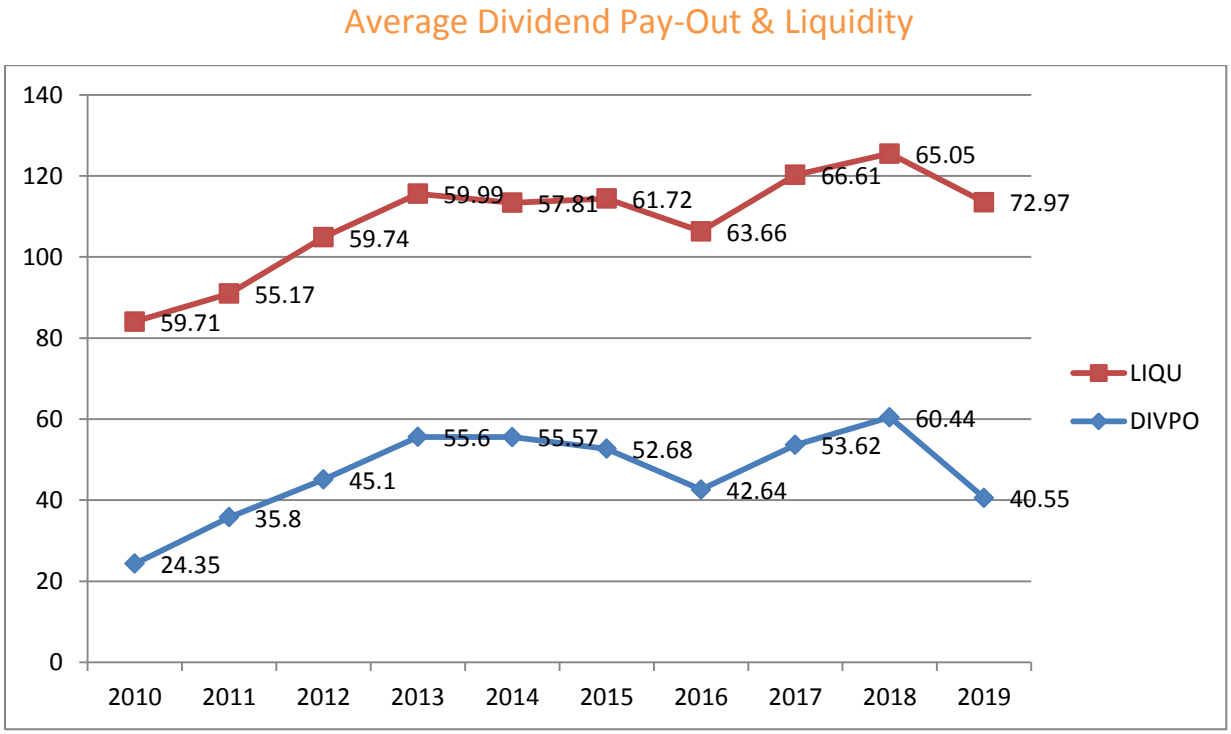


Figure 6 Relationship between dividend pay-out and growth.

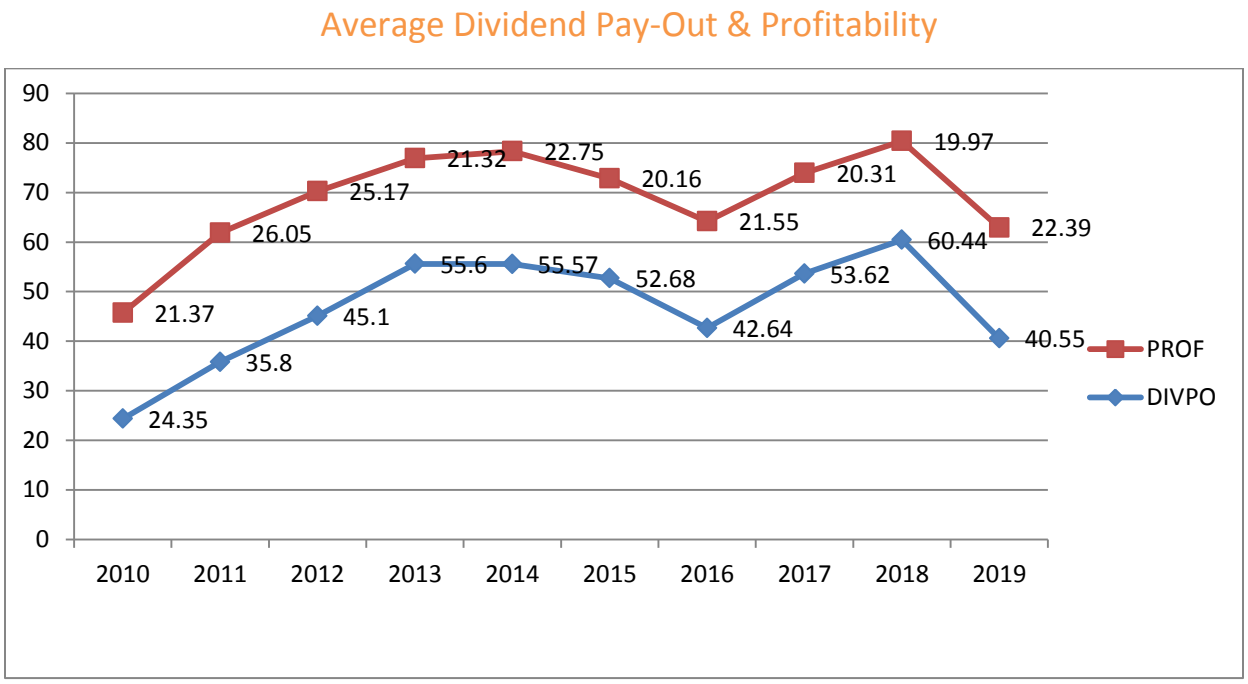


Figure 7 Relationship between dividend pay-out and profitability.

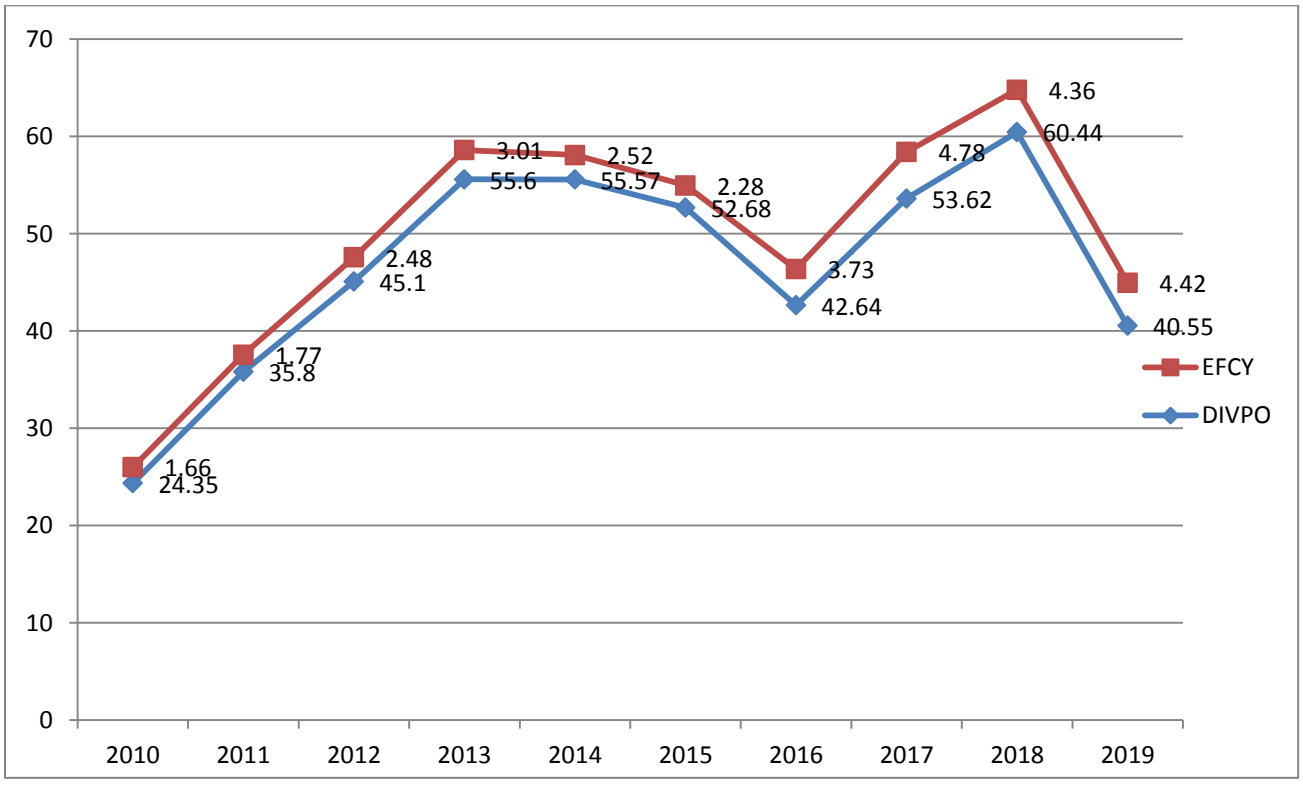


Figure 8 Relationship between dividend pay-out and efficiency.

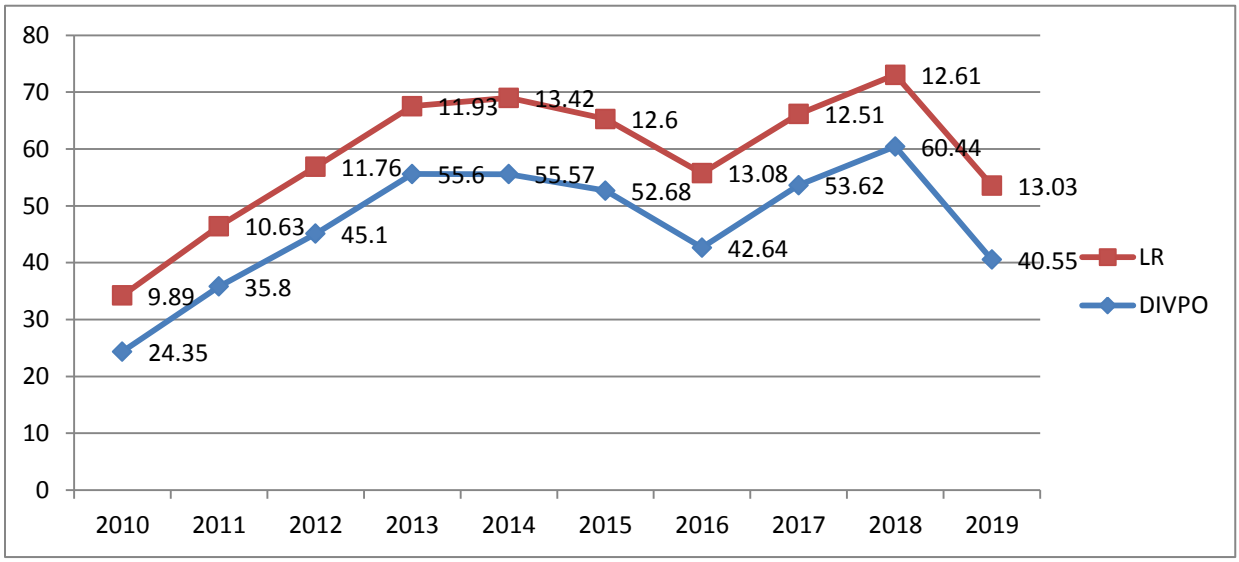


Figure 9 Relationship between dividend pay-out and lending rate.

4.4. Correlation Analysis

Correlation measures the degree of linear association between variables (Brooks, 2014). Closely related to but conceptually very much different from regression analysis is correlation analysis, where the primary objective is to measure the strength and degree of linear association between two variables (Gujarat, 2004). Correlation coefficient between two variables ranges from +1 (i.e. perfect positive relationship) to -1 (i.e. perfect negative relationship). If the correlation coefficient is 0, the movement of variables is said to have no correlation.

Table 3 Correlation Matrix with Dependent Variable

	DIVPO	EFCY	GR	LIQU	LR	PROF	SIZE	INF
DIVPO	1.000							
EFCY	-0.006	1.000						
GR	-0.427	-0.119	1.000					
LIQU	-0.110	0.227	-0.144	1.000				
LR	0.449	0.268	-0.288	0.114	1.000			
PROF	-0.042	-0.031	-0.086	-0.319	-0.116	1.000		
SIZE	0.315	0.229	-0.314	0.008	0.279	0.200	1.000	
INF	-0.124	-0.131	0.199	-0.234	-0.315	0.197	-0.223	1.000

Source: Eviews output result (2010 – 2019)

Based on the output, efficiency, growth, liquidity and inflation are negatively correlated with dividend pay-out. This indicated that when the stated independent variables increase dividend pay-out decrease and vice versa. On the other hand dividend pay-out has a positive correlation with lending rate and size; implies that when the stated independent variables increases, the dependent variable(dividend pay-out also increases.

4.5. Testing Assumptions of Classical Linear Regression Model (CLRM)

To make sure that the model is valid, consistent and reliable, the researcher has conducted the following diagnostic tests.

4.5.1. Normality Test

Normally distributed residuals have a kurtosis value of 3 and are not skewed. Jarque-Bera validates this by testing the residuals for normality and testing whether the coefficient of kurtosis and skewness are 3 and 0 respectively. Skewness indicates the extent to which a distribution is not symmetric about its mean value and kurtosis measures how far the tails of the distribution are. According to Brooks (2008), Normality assumption satisfies and not to reject the null hypothesis of normality at 5% significance level if residuals have a bell shaped histogram, the kurtosis must not be by far large from 3 and Jarque-Bera statistic would not be significant and P-value should be greater

than 0.05. Fig. 10 presents the results for this test. The P-value of 0.34, which is greater than the significance level of 0.05, indicates that the normality assumption holds.

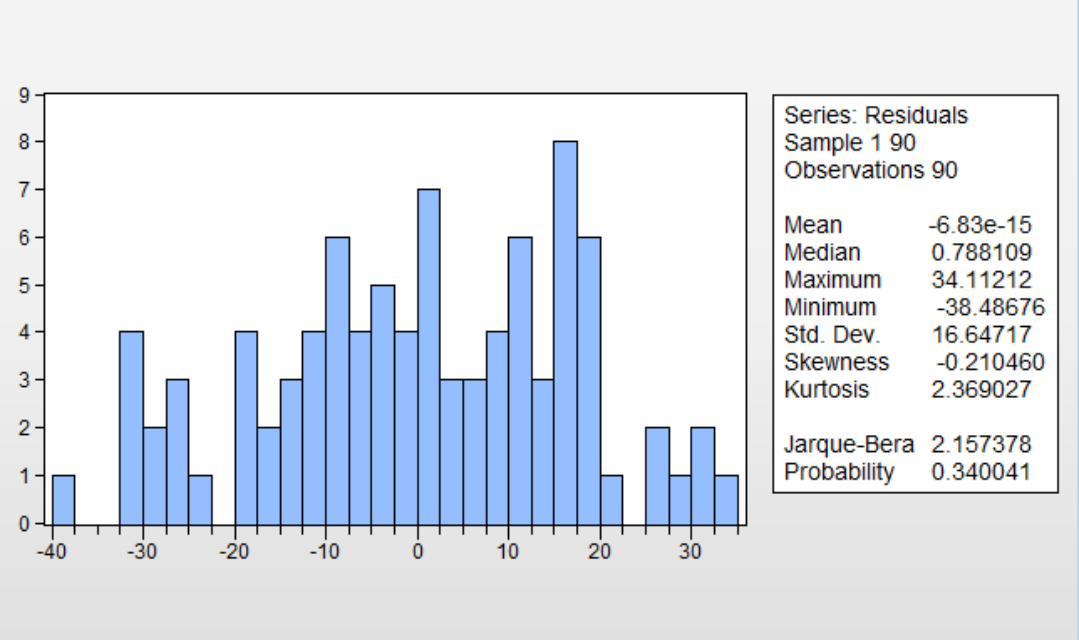


Figure 10 Normality Test

Source: Eviews output result (2010 – 2019)

4.5.2. Test for Multi-co Linearity

Multi-co Linearity refers to the condition whether independent variables are highly correlated or not; resulting in an inconsistent effect, whereby the regression model fits the data well, but none of the independent variables has a significant impact in predicting the dependent variable (Gujarati, 2004).

An explanatory variable having no relationship between them are orthogonal to one another. Adding or eliminating a variable from a regression equation would not cause the coefficient values to change if the independent variables were orthogonal to one another. Unless it causes too much loss of precision, a small degree of association between explanatory variables will always occur since in any practical situation, the correlation between explanatory variables will be non-zero. However, a problem of multi co- linearity occurs when the explanatory variables are highly correlated with each other (Brooks, 2014).

A simple method to investigate the presence of multi co-linearity involves looking at the matrix of correlations between the individual variables.

Overlapping or sharing of the predictive power will exist between variables when they are multi co-linear to each other. In a perfect multi co-linearity, the regression coefficients of the explanatory variables are uncertain and their standard errors are immeasurable (Gujarati, 2004). Multi co-linearity makes significant variables insignificant by swelling P-value since increased P- value lowers the t-statistics value. Hence, the panel regression results with multi co-linearity will show significant variables as insignificant variables.

Many authors suggested differently about the level of correlation to judge the presence of multi co Linearity. As noted by (Gujarati, 2004), a serious problem of multi co-linearity occurred when the correlation value is 0.8 or more i.e. if pair-wise or zero-order coefficient between two repressors is out of the recommended range of multi co-linearity which is -0.8 or 0.8.

Accordingly, the results of the test for existence of multi co-linearity among seven of the independent variables are presented in the correlation analysis matrix here below.

Table 4 Correlation Matrix among Independent Variables

	EFCY	GR	LIQU	LR	PROF	SIZE	INF
EFCY	1.000						
GR	-0.119	1.000					
LIQU	0.227	-0.144	1.000				
LR	0.268	-0.288	0.114	1.000			
PROF	-0.031	-0.086	-0.319	-0.116	1.000		
SIZE	0.229	-0.314	0.008	0.279	0.200	1.000	
INF	-0.131	0.199	-0.234	-0.315	0.197	-0.223	1.000

Source: Eviews output result (2010 – 2019)

The above correlation matrix indicates the highest correlation value of (0.319) between liquidity and profitability; (0.315) between lending rate and inflation. Hence, there is no such series pair-wise correlation that exceeds 0.8 which indicates the absence of multi co-linearity problem in the model.

4.5.3. Hetero scedasticity Test

This assumption anticipated that, the variance for the error terms is constant. If not they are hetero scedastic. White's test is applied to test for homoscedasticity. Both F- and χ2 Chi Square (LM) versions of the test statistic offer the same conclusion that there is no evidence for the existence of hetero scedasticity. When the p values are substantial in excess of 0.05 we couldn't reject the null hypothesis of homoscedasticity. The output result in table 5 indicate that both the F- and χ2 -test statistic give the same conclusion that there is no evidence for the existence of hetero scedasticity since p values for the model is 0.7 and 0.62 respectively which is greater than 0.05.

Table 5 Hetero scedasicity Test; the White Summary

Heteroskedasticity Test: White

F-statistic	0.842639	Prob. F(35,54)	0.7016
Obs*R-squared	31.79110	Prob. Chi-Square(35)	0.6238
Scaled explained SS	18.06467	Prob. Chi-Square(35)	0.9920

Source: Eviews Output Result (2010 – 2019)

4.5.4. Autocorrelation Test

The existence of residuals autocorrelation results in misleading statistical inference. The CLRM assumption requires the absence of autocorrelation meaning, the covariance between the error terms should be zero. In other words, the errors are uncorrelated with one another otherwise they are auto correlated or serially correlated.

The first step in testing whether the error series from an estimated model are auto correlated would be to plot the residuals and looking for any patterns. However, graphical methods are difficult to interpret in practice and hence a formal statistical test should also be applied. The researcher has used Breusch-Goldfrey serial correlation LM test.

Breusch-Goldfrey serial correlation LM Test is another test for autocorrelation in residuals. The Breusch-Goldfrey test is used because DW test is not reliable when lagged values are used in the model. The Breusch-Goldfrey test is much more general in that it allows for both AR and MA error structures as well as the presence of lagged regress and as an explanatory variable (Guajarati, 2004).

Table 6 Breusch-Goldfrey Serial Correlation LM Test Summary

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.816776	Prob. F(2,80)	0.1692
Obs*R-squared	3.910149	Prob. Chi-Square(2)	0.1416

Source: Eviews Output Result (2010- 2019)

Breusch-Goldfrey Serial Correlation LM Test gives an F-statistic of 1.8167 with a p-value of 0.1692 and chi-square version gives 3.9101 with a p-value of 0.1416, concluded there is no auto correlation in the residuals.

4.5.5. Test for Weather Average Value of the Error Term is Zero

This assumption explains that, the average value of error terms is zero. This assumption will never be violated if a constant term is included in the regression equation (Brooks, 2014). Since the constant term (i.e. $\beta 0$) is included in the regression equation, the average value of the error term in the study is expected to be zero.

4.6. Results of Regression Analysis and Interpretation

4.6.1. Results of Regression Analysis

This section explains the regression results that examine determinants of dividend pay-out of private commercial banks in Ethiopia.

Operational panel regression model used to find statistically significant determinants of dividend pay-out in Ethiopian private commercial banks was:

$$DIVPO_{it} = \beta_0 + \beta_1 (PROF)\ it + \beta_2 (SIZE)\ it - \beta_3 (LIQU)_{it} + \beta_4 (LR)\ it - \beta_5 (GR)_{it} + \beta_6 (EFCY)\ it + \beta_7 (INF)\ it + \delta\ i$$

The following table shows the result of ordinary least square regression model that examines the impact of independent variables on dividend pay-out rate. Thus, dividend pay-out rate is explained variable while profitability, asset size, liquidity, lending rate, growth, efficiency and inflation rates are explanatory variables.

The results of regression model analysis through Eviews 9 software has been shown as follows.

Table 7 Results of Ordinary Least Square Regression Model

Dependent Variable: DIVPO
Method: Least Squares
Date: 01/22/21 Time: 12:59
Sample: 1 90
Included observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.290679	30.38088	0.042483	0.9662
EFCY	-1.094202	0.747232	-1.464340	0.1469
GR	-0.051825	0.014729	-3.518543	0.0007
LIQU	-0.574047	0.271388	-2.115231	0.0374
LR	5.254509	1.420443	3.699203	0.0004
PROF	-0.387102	0.255054	-1.517726	0.1329
SIZE	0.078375	0.041711	1.878991	0.0638
INF	0.159200	0.248895	0.639628	0.5242

R-squared	0.386430	Mean dependent var	46.63444
Adjusted R-squared	0.334052	S.D. dependent var	21.25242
S.E. of regression	17.34317	Akaike info criterion	8.628962
Sum squared resid	24664.42	Schwarz criterion	8.851168
Log likelihood	-380.3033	Hannan-Quinn criter.	8.718569
F-statistic	7.377715	Durbin-Watson stat	1.591666
Prob(F-statistic)	0.000001		

Source: Eviews Output Result (2010 – 2019)

The model applied in this study was:

DIVPO=1.291-1.094(EFCY)-0.052(GR)-0.574(LIQU)+5.255(LR)-0.387(PROF)+0.078(SIZE)+0.159(INF) + $\delta\ i$

4.6.2. Interpretation of R-Squared, Adjusted R-Squared and F-Statistic

4.6.2.1 Interpretation of R-Squared and Adjusted R-Squared

R^2 tell us how much variation in the dependent variable is accounted for by the regression model, the adjusted value tells us how much variance in the dependent variable would be accounted for if the model had been derived from the population from which the sample was taken. Specifically, it reflects the goodness of fit of the model to the population taking into account the sample size and the number of predictors used (Brooks, 2014).

As cited by Habtamu (2019), R^2 measures the realization of the regression in predicting the values of the explained variable in the sample. A perfectly fit regression has R^2 value of one and zero for a regression that fits no better than the simple mean of the dependent variable. There is a rule of thumb which can be used to determine the R^2 value is as follows: 0.1: poor fit, 0.11 to 0.30: modest fit, 0.31 to 0.50: moderate fit, >0.50: strong fit (Muijs, 2004). Here, in this study, the output of the econometrics model shows that R-squared coefficient of 0.386430 which is moderate explanatory power of the model, meaning that 38.64% of variation in dividend pay-out rate is explained by the selected explanatory variables (efficiency, growth rate, lending rate, liquidity. profitability, asset size, and inflation rate).

Adjusted R^{-2} explains the loss of degrees of freedom associated with adding extra variables that inferred to see the explanatory powers of the model. It is an output used for better interpretation. It can also interpret as the portion of the variance of the explained variable described by the explanatory variables. In the study R^{-2} of 33.41% indicates that the formula is moderately fit for predicting the dividend pay-out of Ethiopian private commercial banks. This indicates that 33.41% of changes that occur in the dependent variable are attributable to the independent variables.

4.6.2.2 Interpretation of F-Statistics

The F-statistics tests the fitness of the model. A recommended value of F-statistics should be greater than 5 to be considered fit (Habtamu, 2019). The regression F-statistic has a value of 7.38 which is greater than 5 showing that the model was fit for estimation.

Furthermore, F-statistics tests for the joint impact of all explanatory variables on the dependent variables. A corresponding p-value of zero attached to the test statistic shows that the null hypothesis that all of the slope parameters are jointly zero should be rejected even at 1% significance level. This implies that all selected explanatory variables can jointly affect the dividend pay-out rate of commercial banks.

4.6.3. Interpretation of Regression Results

The relationship between dependent variable and each independent variable were discussed based on the regression output as follows.

In the regression output, the variables coefficient may be negative or positive; it indicates that the level of influence of each independent variable on the dependent variable. The positive beta coefficient discloses the independent variable's positive effect on the dependent variable, and a negative coefficient has a negative effect on the dependant variable. It informs us on average when independent variable increases by one unit the dependent variable increases/decreases by beta amount but the independent variables should be statistically significant.

Based on the regression out put on the above table, lending rate and asset size have positive effect on dividend pay-out rate while liquidity and growth have negative effect. Thus, outputs of regression results show that only bank specific factors determine the variability of dividend pay-out rate of Ethiopian private commercial banks.

A. Efficiency (EFCY) on Dividend Pay-out Rate

A higher efficiency rate due to higher non -interest income and a decreased non interest expense generated indicates an increase in profit and hence result in a higher dividend pay-out rate or conversely. This ratio indicates the efficiency of a bank; whether the bank is capable of generating non-interest income or not.

Though the sign of the coefficient was not as expected, the coefficient of efficiency is negative and statistically insignificant. Supporting this logic, Okpara (2010), concluded that when firms experience surplus earnings, they allocate most of them into retention for the plugging back and growth of the firm.

Efficiency has an estimated coefficient and p-value of -1.094 and 0.1469 respectively in the dividend pay-out rate regression which means that, holding other factors constant, on average a 1% increase in efficiency results in reduction of dividend pay-out rate by 1.094% and the relationship is statistically insignificant.

B. Growth (GR) on Dividend Pay-out Rate

The study outcome indicates that the co-efficient of growth is -0.052 (negative) which is similar to the researcher's expectation. Its p-value is 0.007 which is statistically significant even at 1% significant level. This finding reflects that dividend pay-out rate decreases when growth increases. This finding is consistent with Seifu(2018) suggesting that the bank with high growth tend to pay lower dividends. An increase in growth of the banks necessarily influences how much dividend must be paid by the listed banks.

Whenever the firm grows rapidly, there is a need of more funds in order to finance the expansion, thus more funds will be retained for the expansion and no or very low dividend will be paid (Raphael & Mnyavanu, 2018, Chang &Rhee, 1990). Consequently, firms with greater growth prospects are expected to retain more portion of their earning, which result in lower dividend pay-out rate (Higgins, 1972; Rozeff, 1982; Jensen et al., 1992; Alli et al., 1993; Mohammed et al., 2006) as cited by (Maladjian & Khoury, 2014). Holding other factors constant, on average a 1% increase in growth results in a reduction of dividend pay-out rate by 0.052% and the relationship is statistically significant at 1% significance level.

C. Liquidity (LIQU) on Dividend Pay-out Rate

Although the sign of the coefficient is different from the expected, its estimated coefficient and p-value is -0.574% and 0.037 respectively, which is significant at 5% significance level. The result proposes that the bank that have a better liquidity position pay lower dividends. The same finding was confirmed by Dakito &Ravi (2015), Simegn(2013), Theodros(2011) and Barclay et al. (1995), that high return on equity inspires the firms to reinvest more. As dividend payment decreases the amount of funds

vacant for reinvestment, firms will pay low dividends. Another justification for this relationship is that, banks have high need of liquid cash as compared to any other industry, because their total operations involve either payment or receipts of cash. On top of this, banks try to lend more so as to increase their returns. So in order to achieve smooth flow of operations, increase the future returns and to fulfil the reserve requirement of National Bank of Ethiopia banks tend to keep high level of liquidity. In such states negative relationship between liquidity and dividend pay-out can be expected.

Loan to deposit ratio has negative significant effect on dividend pay-out rate. It explains that an increase in loan to deposit ratio results in a decrease in dividend payments. Olowe and Moyosore (2014), pointed out that high loan to deposit ratio reduces liquidity position of banks especially in the form of cash. So it will not be in a position to pay high dividend. Result of this study second the findings of Theodros(2011).

Holding other factors constant, on average a 1% increase in liquidity results in a reduction of dividend pay-out rate by 0.574% and the relationship is statistically significant at 5% significance level.

D. Lending Rate (LR) on Dividend Pay-out Rate

Lending rates are the prices that borrowers paid when taking loans from the lenders. It is the interest rate in which banks levied on borrowers. It measures the implicit earnings of the bank from interest bearing activities.

The result shows that the relationship between lending rate and dividend pay-out is positive as expected and significant at 1% significance level with a p-value of 0.0004 and coefficient value of 5.255%. As the lending rate increases, the profitability of the bank will also increase. Since income from interest is the primary source of profitability for banks. Thus, those banks which levied high interest rate could have high dividend pay-out rate.

Holding other factors constant, on average a 1% increase in lending rate results in an increase of dividend pay-out rate by 5.255% and the relationship is statistically significant at 1% significance level.

E. Profitability (PROF) on Dividend Pay-out Rate

Although the sign of the estimated coefficient was not as expected, the coefficient and p-value of profitability is -0.387 % (negative) and 0.133 which is statistically insignificant effect on dividend payments in Ethiopian private Banks. The result of the study is consistence with Theodros (2011), Al-Ajmi (2008) in Saudi Arabia, Okpara and Chigozie (2010) in Nigeria and partly with Ferris, et al. (2003) whom found U.K. firms with negative earnings paid dividends. However, they contradict to Aivizian et al (2003), Amidu and Abor (2006) in Ghana.

Holding other factors constant, on average a 1% increase in profitability rate results in a reduction of dividend pay-out rate by 0.387% and the relationship is statistically insignificant.

F. Asset Size (SIZE) on Dividend Pay-out Rate

Firm size has statistically significant relationship with dividend payout consistent with the findings of Redding (1997) and Fama and French (2001) that the probability of paying dividends increases with firm size. Larger firms pay higher cash dividends for several reasons. Large firms have easier access to capital markets, and they are able to raise funds with lower issuance costs for external financing (Lloyd et al., 1985; Fama & French, 2002). Consequently, large firms are better able to distribute higher dividends to shareholders than small firms.

As expected, the result indicated that the relationship between asset size and dividend pay-out is positive and insignificant at 10% significance level with a p-value of 0.0638 and coefficient value of 0.078%. Asset Size appeared to be statistically insignificant. This suggests that it does not have a direct influence on the dividend payments of the listed commercial bank in Ethiopia.

F. Inflation (INF) on Dividend Pay-out Rate

As expected before analysis, the result shows that the relationship between lending rate and dividend pay-out is positive but insignificant with p-value of 0.0524 and estimated coefficient value of 0.159%. Therefore, inflation does not have a direct influence on the dividend payments of the listed commercial bank in Ethiopia.

Four variables appeared to be statistically insignificant such as efficiency, profitability, asset size and inflation. This suggests that these variables do not have a direct influence on the dividend payments of the listed private commercial bank in Ethiopia.

4.7. Summary

The trend analysis of dividend pay-out rate of private commercial banks in Ethiopia shows an upward sloping in the study period from 2010 to 2013, downward sloping from 2014 to 2016 and again rises up in 2017 and 2018. The descriptive statistics confirmed that data are in a good level of consistency and stability in distribution. Following the descriptive statistics, tests for normality, hetero scedasticity, multi-co linearity and autocorrelation problems were checked.

The result shows that bank dividend pay-out rate in Ethiopia were mainly driven by bank specific factors. Three bank specific factors used in the study have the greatest influence on determining dividend pay-out rate as summarized below.

Table 8 Summary of expected and actual signs of explanatory variables on the dependent variable

S. No	Explanatory Variables	Predicted Sign and Impact	Actual Sign and Impact
1.	Efficiency	Positive and Sig.	Negative and Insig.
2.	Growth Rate	Negative and Sig.	Negative and Sig.
3.	Liquidity	Positive and Sig.	Negative and Sig.
4.	Lending Rate	Positive and Sig.	Positive and Sig.
5.	Profitability	Positive and Sig.	Negative Insig.
6.	Size	Positive and Sig.	Positive and Insig.
7.	Inflation	Positive and Insig.	Positive and Insig.

Note: - Sig. Statistically Significant

- Insig. Statistically Insignificant

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The main purpose of the study was to examine the relationship between the dividend pay-out ratio and some bank specific selected factors and one macroeconomic factor (inflation). OLS multiple regressions were run on a sample of nine Ethiopian private banks. The bank specific factors included in the study were profitability (ROE), asset size, liquidity, growth, lending rate, efficiency and macroeconomic factor inflation. While testing the impact of these seven explanatory variables on the dividend pay-out rate, we concluded that only three variables can explain the dividend policy.

Surplus earnings of the firm are being allocated mostly to the growth opportunities of the company so that banks can open new branches in different regions and countries where they found projects with positive NPV. So growth opportunity has negative significant impact on dividends.

Furthermore, the bank that has a better liquidity position pay lower dividends. High return on equity stimulates the firms to reinvest more, as dividend payment reduce the amount of funds available for reinvestment, so firms pay low dividends. Banks have high need of liquid cash as compared to any other industry, because their total operations involve either payment or receipts of cash.

Finally, the last variable is the lending rate; the significance of this variable is due to the fact that the bank's primary source of profitability is interest earned on loan and advances granted for their customers. It is obvious that increased lending rate of banks will result in the rise of profitability and then able to pay them more dividend.

Four variables which appeared to be statistically insignificant are: efficiency, profitability, asset size and inflation. These variables do not have a direct influence on the dividend payments. Some limitations encountered in the study are; small sample size, unconsidered qualitative bank specific factors, and unavailability of clear and accurate financial data for other excluded related variables. It is possible that other factors might have a greater impact on the dividend pay-out ratio that will be considered in future study. Variables such as the firm maturity, ownership structure, capital structure and institutional ownership of the firm could be examined.

Knowing the determinant factors of dividend pay-out policy has significant implication for investors and portfolio analysts. Investors who want to select the dividend paying firms might have to look into the three mentioned factors before selecting banks for investment. Furthermore, the board of directors of banks should give consideration to growth, lending rate and liquidity when they set the dividend policy as they are found to be the most significant variables that affect the dividend policy of listed banks. This will help them to make an efficient, effective, and reasonable dividend pay-out decision which in the long run will help them to achieve their objective of maximizing profit and satisfying employees and shareholders' needs.

5.2. Recommendations

On the basis of the above findings, it is possible to propose the following recommendations. The recommendations will help commercial banks to focus on selected areas of emphasis so as to set optimal dividend rate and choice of investment.

- ✓ Since loan and advances granted for customers are the principal source of profit for banks, lending rate has significant impact on dividend payments of Ethiopian banking sector; this implies an individual investor who prefers current high dividend shall invest on those banks having the largest lending rate.

- ✓ Investors who want to select the dividend paying firms might have to look into the three mentioned factors (growth, liquidity and lending rate) before selecting the bank for investment.

- ✓ The board of directors of banks should give consideration to growth, lending rate and liquidity when they set the dividend policy as they are found to be the most significant variables that affect the dividend policy of listed banks. This will help them to make an efficient, effective, and reasonable dividend pay-out decision.

- ✓ Further research will be conducted with wider scope and more variables for instance the impacts of firm's age, ownership structure, capital structure and firm maturity on dividend pay-outs.

5.3. Suggestions for Further Studies

The primary focus of this research was examining determinant factors and their impact on dividend pay-out rate in the case of private commercial banks in Ethiopia using selected variables. However, there are so many bank specific and macroeconomic variables that were not included in this study. Thus, future researchers are recommended to undertake similar study by considering additional variables. Such researches are useful to validate findings of the current study.

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7. APPENDICES

Appendix I: Raw Data

Name of The Bank	Time	DIVPO	GR	SIZE	INF	LIQU	PROF	EFCY	LR
AIB	2010	58.62	38.60	390.01	8.15	51.50	29.30	2.11	10.12
AIB	2011	46.46	35.07	400.50	33.25	51.50	32.10	2.50	10.27
AIB	2012	65.42	19.75	407.69	24.12	59.80	27.00	1.50	12.48
AIB	2013	63.97	34.02	417.20	8.08	61.50	28.00	1.26	11.81
AIB	2014	21.06	29.05	430.17	7.40	61.00	27.20	1.35	12.14
AIB	2015	11.54	19.77	437.78	10.11	67.40	23.00	1.05	11.91
AIB	2016	14.48	22.73	447.14	7.26	67.70	21.50	8.53	12.63
AIB	2017	55.63	33.28	462.30	9.85	73.80	23.70	7.85	11.63
AIB	2018	47.81	43.60	391.99	14.60	72.00	31.30	6.12	11.52
AIB	2019	5.90	49.06	222.04	12.60	79.30	41.10	7.98	12.41
BIB	2010	-	426.00	257.92	8.15	64.37	(8.21)	1.95	10.45
BIB	2011	-	1,092.96	296.09	33.25	47.79	16.82	1.41	10.39
BIB	2012	29.20	56.91	310.89	24.12	53.62	17.41	1.49	11.71
BIB	2013	43.47	18.44	334.19	8.08	61.45	12.01	1.10	9.27
BIB	2014	43.92	55.57	344.92	7.40	58.89	9.62	7.44	14.39
BIB	2015	56.43	60.19	362.03	10.11	61.13	16.19	1.00	11.21
BIB	2016	14.28	95.51	385.71	7.26	69.89	29.75	1.09	12.43
BIB	2017	54.30	53.00	402.07	9.85	69.20	22.41	1.02	13.09
BIB	2018	79.75	21.02	355.17	14.60	66.21	16.04	6.04	12.58
BIB	2019	45.45	48.76	286.12	12.60	68.27	18.33	6.54	13.05

BOA	2010	23.00	31.37	379.79	8.15	61.36	25.45	1.42	8.96
BOA	2011	24.00	31.77	386.20	33.25	54.58	29.04	1.25	11.60
BOA	2012	26.00	16.99	391.59	24.12	57.56	27.60	9.98	13.10
BOA	2013	26.90	-	400.56	8.08	55.34	21.48	9.98	10.79
BOA	2014	72.90	63.90	405.22	7.40	55.64	33.94	1.31	14.50
BOA	2015	70.39	1.86	413.57	10.11	53.11	17.47	0.57	14.45
BOA	2016	57.48	35.29	422.60	7.26	58.76	18.33	0.67	13.70
BOA	2017	58.02	46.48	440.35	9.85	67.28	22.68	7.48	11.42
BOA	2018	71.00	35.87	437.29	14.60	69.75	15.74	3.80	12.56
BOA	2019	42.90	31.00	457.88	12.60	73.83	16.90	4.46	13.02
DB	2010	33.68	27.53	409.18	8.15	50.00	31.89	1.86	9.77
DB	2011	38.99	32.96	416.61	33.25	53.00	35.77	2.07	9.91
DB	2012	34.54	34.56	424.35	24.12	58.00	40.44	1.96	11.29
DB	2013	65.59	5.30	429.55	8.08	56.00	31.33	1.54	11.78
DB	2014	24.77	18.06	434.17	7.40	53.00	30.69	1.63	12.09
DB	2015	54.92	17.26	439.38	10.11	58.00	26.41	1.24	12.47
DB	2016	40.25	8.67	445.60	7.26	56.00	23.15	1.16	12.19
DB	2017	15.95	24.97	453.94	9.85	65.00	20.57	8.88	11.69
DB	2018	38.00	29.74	472.38	14.60	65.00	18.84	6.39	12.38
DB	2019	53.88	20.86	493.69	12.60	73.00	16.00	4.90	12.56
BUN	2010	-	38.12	268.13	8.15	80.00	-	0.63	9.69
BUN	2011	32.01	268.79	289.26	33.25	74.50	9.70	1.17	9.41
BUN	2012	32.41	49.81	313.51	24.12	72.20	10.70	0.98	9.79
BUN	2013								

		32.60	55.86	332.81	8.08	61.30	14.00	0.78	12.89
BUN	2014	51.31	72.55	347.88	7.40	62.40	17.90	0.86	13.44
BUN	2015	42.34	62.80	365.32	10.11	69.10	22.50	0.82	12.75
BUN	2016	41.54	52.44	383.38	7.26	67.40	22.90	0.78	13.52
BUN	2017	67.51	25.85	399.21	9.85	69.50	17.40	0.72	12.14
BUN	2018	47.70	50.56	347.43	14.60	68.80	18.90	0.62	12.46
BUN	2019	44.32	31.60	358.16	12.60	78.20	20.30	0.71	12.76
HB	2010	52.00	31.84	377.06	8.15	55.30	30.10	1.63	9.97
HB	2011	53.24	23.48	388.79	33.25	54.00	30.00	1.79	10.64
HB	2012	53.05	31.88	394.38	24.12	60.50	30.00	1.38	12.99
HB	2013	72.17	8.96	399.90	8.08	58.40	19.00	8.60	13.01
HB	2014	78.84	5.97	407.47	7.40	56.90	14.00	6.10	14.33
HB	2015	89.97	38.92	415.72	10.11	58.10	17.00	6.50	13.99
HB	2016	69.69	25.48	423.73	7.26	65.50	18.00	6.20	14.56
HB	2017	68.65	20.13	434.05	9.85	72.70	17.00	3.20	13.07
HB	2018	53.03	42.67	324.10	14.60	65.30	21.00	5.30	13.56
HB	2019	48.69	29.05	448.39	12.60	74.70	22.00	3.90	14.04
LIB	2010	-	112.92	313.47	8.15	57.39	18.43	1.32	9.81
LIB	2011	45.47	27.00	325.72	33.25	52.00	15.00	1.25	11.37
LIB	2012	39.68	55.73	339.15	24.12	56.00	19.00	1.39	12.11
LIB	2013	44.97	35.26	346.87	8.08	63.00	23.00	1.41	12.98
LIB	2014	84.24	15.15	355.79	7.40	57.00	23.00	0.94	13.57
LIB	2015	34.64	86.80	376.78	10.11	64.00	21.00	1.02	11.55
LIB	2016	24.38	30.04	390.95	7.26	67.95	20.74	8.33	12.25

LIB	2017	28.92	16.53	404.04	9.85	62.52	21.32	6.18	13.92
LIB	2018	58.73	44.54	356.94	14.60	64.96	23.99	5.54	12.68
LIB	2019	38.33	47.18	392.29	12.60	72.29	24.68	5.97	13.05
NIB	2010	51.86	30.63	377.60	8.15	61.69	24.42	1.59	10.88
NIB	2011	52.24	18.00	385.20	33.25	53.64	23.61	1.67	12.54
NIB	2012	59.82	15.65	391.78	24.12	63.53	21.21	1.49	12.02
NIB	2013	71.01	12.08	396.12	8.08	68.26	18.75	1.02	12.88
NIB	2014	68.20	-	403.13	7.40	68.25	16.38	1.01	10.55
NIB	2015	51.33	42.01	412.24	10.11	68.25	16.28	6.86	12.88
NIB	2016	65.02	18.39	419.95	7.26	60.47	16.60	5.30	15.19
NIB	2017	76.42	36.17	432.26	9.85	65.25	16.21	6.09	14.00
NIB	2018	74.95	27.13	419.20	14.60	62.44	16.26	4.27	13.63
NIB	2019	46.07	34.64	442.58	12.60	70.27	18.50	4.00	12.78
ZB	2010	-	644.03	392.35	8.15	55.80	40.94	2.44	9.32
ZB	2011	29.83	62.44	320.77	33.25	55.50	42.43	2.83	9.57
ZB	2012	65.74	22.49	337.92	24.12	56.48	33.14	2.12	10.34
ZB	2013	79.75	51.92	351.17	8.08	54.67	24.33	1.41	11.98
ZB	2014	54.86	12.39	359.38	7.40	47.18	31.98	2.07	15.76
ZB	2015	62.54	10.26	368.79	10.11	56.41	21.57	1.45	12.17
ZB	2016	56.64	40.12	386.77	7.26	59.30	22.96	1.48	11.28
ZB	2017	57.20	37.37	398.54	9.85	54.22	21.53	1.59	11.67
ZB	2018	72.96	17.54	343.26	14.60	50.95	17.70	1.20	12.09
ZB	2019	39.38	39.38	359.49	12.60	66.90	23.71	1.36	13.60

Appendix II: Regression Results

Dependent Variable: DIVPO
Method: Least Squares
Date: 01/26/21 Time: 11:37
Sample: 1 90
Included observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.290679	30.38088	0.042483	0.9662
EFCY	-1.094202	0.747232	-1.464340	0.1469
GR	-0.051825	0.014729	-3.518543	0.0007
LIQU	-0.574047	0.271388	-2.115231	0.0374
LR	5.254509	1.420443	3.699203	0.0004
PROF	-0.387102	0.255054	-1.517726	0.1329
SIZE	0.078375	0.041711	1.878991	0.0638
INF	0.159200	0.248895	0.639628	0.5242

R-squared	0.386430	Mean dependent var	46.63444
Adjusted R-squared	0.334052	S.D. dependent var	21.25242
S.E. of regression	17.34317	Akaike info criterion	8.628962
Sum squared resid	24664.42	Schwarz criterion	8.851168
Log likelihood	-380.3033	Hannan-Quinn criter.	8.718569
F-statistic	7.377715	Durbin-Watson stat	1.591666
Prob(F-statistic)	0.000001		

Appendix III: Hetroscedasticity Test: White

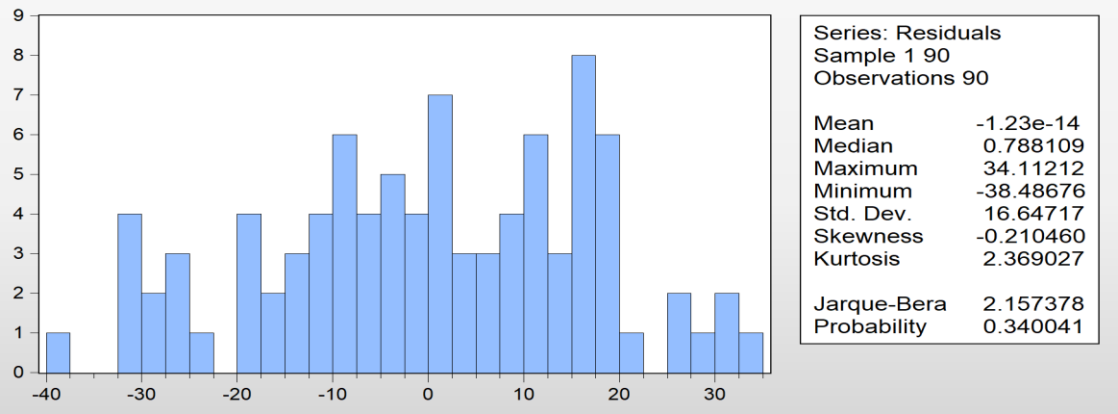
Heteroskedasticity Test: White

F-statistic	0.842639	Prob. F(35,54)	0.7016
Obs*R-squared	31.79110	Prob. Chi-Square(35)	0.6238
Scaled explained SS	18.06467	Prob. Chi-Square(35)	0.9920

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 01/26/21 Time: 11:41
Sample: 1 90
Included observations: 90

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11379.37	10446.16	-1.089335	0.2808
EFCY^2	1.824461	11.67593	0.156258	0.8764
EFCY*GR	-0.036825	1.373530	-0.026810	0.9787
EFCY*LIQU	-1.758865	4.307972	-0.408281	0.6847
EFCY*LR	21.77953	18.74799	1.161700	0.2505
EFCY*PROF	-5.628881	5.939875	-0.947643	0.3475
EFCY*SIZE	0.163062	0.542564	0.300540	0.7649
EFCY*INF	2.392618	4.413020	0.542172	0.5899
EFCY	-118.4809	460.6804	-0.257187	0.7980
GR^2	-0.008506	0.007100	-1.198134	0.2361
GR*LIQU	-0.301377	0.273502	-1.101917	0.2754
GR*LR	-1.885463	1.565777	-1.204171	0.2338
GR*PROF	0.017646	0.266030	0.066333	0.9474
GR*SIZE	-0.040589	0.087207	-0.465428	0.6435
GR*INF	-0.014806	0.136817	-0.108215	0.9142
GR	55.49033	32.24213	1.721051	0.0910
LIQU^2	0.128683	0.987755	0.130278	0.8968
LIQU*LR	-11.22743	6.429344	-1.746280	0.0864
LIQU*PROF	-0.007414	1.300143	-0.005702	0.9955
LIQU*SIZE	0.035861	0.175525	0.204309	0.8389
LIQU*INF	-1.591814	1.696979	-0.938028	0.3524
LIQU	139.8111	153.1312	0.913015	0.3653
LR^2	-59.29876	22.41411	-2.645600	0.0107

Appendix IV: Normality Test



Appendix V: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.816776	Prob. F(2,80)	0.1692
Obs*R-squared	3.910149	Prob. Chi-Square(2)	0.1416

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 01/26/21 Time: 11:49
Sample: 1 90
Included observations: 90
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.965772	30.16274	0.131479	0.8957
EFCY	0.161040	0.752870	0.213901	0.8312
GR	0.003423	0.014719	0.232567	0.8167
LIQU	-0.027453	0.269290	-0.101945	0.9191
LR	-0.680498	1.452583	-0.468475	0.6407
PROF	-0.057607	0.254551	-0.226307	0.8215
SIZE	0.016299	0.042186	0.386367	0.7003
INF	0.020488	0.249399	0.082148	0.9347
RESID(-1)	0.224113	0.118783	1.886742	0.0628
RESID(-2)	-0.007533	0.115546	-0.065196	0.9482

R-squared	0.043446	Mean dependent var	-1.23E-14
Adjusted R-squared	-0.064166	S.D. dependent var	16.64717
S.E. of regression	17.17296	Akaike info criterion	8.628989
Sum squared resid	23592.85	Schwarz criterion	8.906745
Log likelihood	-378.3045	Hannan-Quinn criter.	8.740996
F-statistic	0.403728	Durbin-Watson stat	1.955557
Prob(F-statistic)	0.929639		

Appendix VI: List of Private Commercial Banks in Ethiopia

S.No	Name of Bank	Year of Establishment
1.	Awash Bank S.C	1994
2.	Dashen Bank S.C	1995
3.	Bank of Abyssinia S.C	1996
4.	Wegagen Bank S.C	1997
5.	Hibret Bank S.C	1998
6.	NIB International BANK s.C	1999
7.	Cooperative Bank of Oromia S.C	2004
8.	Lion International Bank S.C	2006
9.	Oromia International Bank S.C	2008
10.	Zemen Bank S.C	2008
11.	Bunna International Bank S.C	2009
12.	Berhan International Bank S.C	2009
13.	Abay Bank S.C	2010
14.	Addis International Bank S.C	2011
15.	Debub Global Bank S.C	2012
16.	Enat Bank S.C	2013