Factors Affecting Dividend Payout Ratio of Private Commercial Banks in Ethiopia

BY

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ADDIS ABABA, ETHIOPIA

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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MBA IN ACCOUNTING AND FINANCE

ADVISOR: Abraham G/Giorgis (Asst. prof)

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Abraham G/Giorgis (Asst.prof). All sources of materials used for the thesis have been accordingly 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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St. Mary's University, Addis Ababa   February, 2022

ENDORSEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

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St. Mary's University, Addis Ababa   **February, 2021**

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Abstract

This study investigated the factors determining dividend pay-out policy of Ethiopian private commercial banks. The study used 10 years secondary data from 12 purposively selected private commercial banks. Dividend pay-out ratio was used as dependent variable and profitability, liquidity, leverage, firm growth, firm size, lagged dividend pay-out, inflation and GDP growth were used as independent variables. Randum effect panel regression technique was used. The regression result revealed that profitability, liquidity, leverage, lagged dividend pay-out and firm size have positive significant effect on dividend pay-out ratio. whereas, firm growth, inflation and GDP were found to be statistically insignificant and have no any impact on dividend policy of Ethiopian private banks. Based on the results found it is recommended that investor who prefers current high dividend should invest on profitable company, while management should announce the dividend after considering their profit, investor should invest on larger company to earn higher dividend.

Key words: Dividend policy; Dividend payout; Bank sector

CONTENTS

Abbreviations and Acronyms

DPO	Dividend Payout Ratio
FEM	Fixed Effect Model
FS	Firm's Size
GDP	Real gross domestic product
GRO	Growth opportunity
INFG	General level inflation
LEV	Leverage
LIQ	Liquidity
NBE	National Bank of Ethiopia
OLS	Ordinary least square
PDPO	Previous Year Dividend Payout Ratio
REM	Random Effect Model
CLRM	Classical linear regression model
HO	Null Hypothesis
NBE	National Bank of Ethiopia
OLS	Ordinary Least Square
REM	Random Effect Model

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CHAPTER 1 INTRODUCTION

1.1. Introduction

This chapter begins with background to the study. This is followed by the definition of the main problem and discussion of the gaps found to be filled. The main and specific objectives section of the study summarizes what are expected to be achieved by the end of the thesis. The main research questions to be answered in the study are mentioned next. The significance of the study and scope of the study are also presented to show the importance and the limitation of the study respectively.

1.2. Background of the study

The main sources of finance for firms' investment can be categorized as internal and external. The internal sources include retained earnings and depreciation, while external sources might include new borrowings or the issue of stock. The decision made by firms to use or not to use part of the profit (retained earnings) in financing their investment is made in dividend decision. On the other hand, the decision that determines the proportion of external finance to be borrowed and the proportion to be raised in the form of new equity is capital structure decision. Even if there are factors, such as: legal requirements, debt covenants and availability of cash resources, that impose limitations on decision making, managers in firms have the freedom to identify the amount of the dividend they wish to pay to their shareholders (Cyprian,2018).

According to the studies made by Gill, Biger and Tibrewala (2010), it is suggested that dividend should be paid in order to: (i) provide certainty about the company's financial wellbeing, (ii) be attractive for investors looking to secure current income, and (iii) help maintain market price of the share. However, managers choose dividend policy that can satisfy their shareholders. To determine the percentage of net profit to be distributed to the shareholders as dividend is a serious challenge facing companies because of the alternative uses of such corporate profits. Nuredin (2012) noted that companies are confronted with the dilemma of dividend distribution and profit retention. Profit retention and its reinvestment for growth and expansion may seem a better option for corporate companies. However, dividend could be a means through which investors could detect financial performance problems and be in a better position to understand the future prospects of such firm (Cyprian, 2018).

Based on the theory of Pecking order, companies prefer to use the internal sources of capital first, then after internal Muhammad (2014) financing, they go for debt and finally from the issuance of shares. Therefore, profitable business has more internal funds which indirectly results in giving big dividend. Some researchers believe dividends is not significant for optimal policy adaption as if business grows, as the flow of the interests of shareholders grows. (Muhammad, 2014).

Researchers and companies are always concerned about dividend payment while investors are interested to know the value of dividend. Some issues have arisen in terms of proportions of dividend from income which should be distributed to shareholders, that is, whether they should be paid cash dividend, stock dividend or they should not be paid at all. Therefore, many controversies have emerged from prior empirical studies related to dividend policy and factors affecting dividend payout. There are significant studies on determinants of dividend payout of private banks in Ethiopia.

As many researches have done on the dividend payment, it is not arrived in the same conclusion to determine the factors that determine dividend payments. Even the studies conducted in the same industries; the result is not the same. So, it becomes a puzzle for a long period of time to know the factor that affect the dividend payment (Fiseha, 2018).

1.3. Statement of the problem

Financial sector in Ethiopia is dominated by banking industry. Due to this banking industry deserves high attention because its development reduces poverty and inequality by broadening access to finance to the poor and vulnerable groups, increasing investment and productivity, which in turn increases income generation. Though financial sectors in Ethiopia are highly profitable, concentrated and moderately competitive, the dividend payout policy will affect the incentive to invest on the sector and negatively affects the performance of the banking industry in particular and the economy of the country in general (Zwedu, 2014).The type of arrangement through which shareholders receive the return on their investment is affected by the dividend policy and also dividend policy is an integral decision of a company's board of directors. Payout decisions, along with financing decisions regarding the capital structure of the company, generally involve decision making by the board of directors and senior-level management and are closely watched by investors and analysts (Simon, 2016).

Although a number of theories have been put forward in the literature to explain their pervasive presence, dividends remain one of the thorniest puzzles in corporate finance. There are many researches done on the subject of dividend policy for many countries like Nuredin (2012); Tefera (2016), Dagnaw

(2009), Getachew (2017), Dilnessa (2019), Ayalew (2019) focused on the insurance sector while Kinfe (2011), H/Maryam (2013), Tesfaye (2017) and Fiseha (2018) focused on the bank sector. Among these authors, some included only internal factors. But the actual motivation of dividend decision still remains unsolved in corporate finance and further research is crucial in order to increase the understanding of the subject (Baker & Powell, 1999). The macroeconomic factor that highly influences the dividend policy is not studied in a detail it needs. For the past three years, there was a shortage of liquidity which is also another influencing factor (NBE, 2021).

Therefore, lack of conclusive consensus solution for the subject of dividend policy, result many researchers continuing to conduct study on this field in order to obtain a strong theoretical and empirical analysis on dividend and solve this dividend puzzle. Moreover, National Bank of Ethiopia set minimum capital requirement for banks, in which the minimum capital requirement changes the extent of dividend payout policy in private commercial banks in Ethiopia (NBE, 2021). As a result, this study will intend to fill the above listed gaps by examining factors affecting dividend payout policy of private commercial banks in Ethiopia. Therefore, this study empirically will examine the influence of firm-specific factors and macro-economic variables on the dividend payout of twelve private banks in Ethiopia based on data from 2011 to 2020.

1.4. Objectives of the study

1.4.1 General objective of the study
The general objective of this study is to examine the factors affecting dividend payout policy of private commercial banks of Ethiopia.

1.4.2 Specific objectives
Specifically, this study aims to achieve the following objectives;

❖ To examine macro-economic factors that influence the dividend payout of Ethiopian private bank sector.

❖ To investigate the industry factors, affect dividend payout policy of Ethiopian private commercial banks.

❖ To examine firm specific factors that influence the dividend payout of Ethiopian private bank sector.

1.5. Research questions

In light of the problems discussed above the research aims to answer the following research questions.

❖ How the macro-economic factors influence the dividend payout of Ethiopian private bank sector?

❖ How do industry factors affect dividend payout policy of Ethiopian private commercial banks?

❖ How does a specific factor influence the dividend payout of Ethiopian private bank sector?

1.6. Significance of the study

Since, the only way of getting returns for the investor is dividend, it is essential to properly study the dividend policy. The study focuses mainly on investigating the relationship between the dividend payout ratio and private banks selected factors. The study will have many advantages for investors, managers and board of directors. Investors require basic information on returns to invest in a firm. Board of directors and management team of private bank sector require confidence, to take corrective actions on their existing dividend payout policy or to formulate a new dividend payout policy. Moreover, this study is conducted in order to increase the knowledge of the dividend payout policies for private banks listed in Ethiopia.

1.7. Scope of and limitation of the study

1.7.1 Scope of and limitation of the study

The topic of this study is to examine internal and macro-economic factors that influence dividend payout of Ethiopian private bank sector. This paper shows the trend of 12 private banks but it is not the whole mirror for a wide period. Sincerity is not possible to incorporate all factors that determine dividend payout policy in one study, the variables are limited to one dependent and eight independent variables i.e., the dependent variable is dividend payout ratio and eight explanatory variables were profitability, liquidity, leverage, growth opportunity, firm's size (total asset of the bank),previous year dividends, GDP and rated of inflation. These variables have been identified as the major determinants of dividend payout policy by different scholars. In this research, it is required to indicate their influence in the Ethiopian private bank sector.

1.7.2 Limitation of the study

Government banks have been excluded from the sample and the generalization is given for only private commercial banks in Ethiopia since there is no dividend payout in government banks. And, this study was conducted on Ethiopian private banks with long term dividend payout history and experience in private banks. Also, ten years dividend payment data of twelve private banks was taken since dividend payment data of most private banks for more than ten years is not available and the number of banks with more than ten years data of payout payment is not representative for the sample. Shortage of pervious similar researches in Ethiopian case, and limited resource may affect the qualities of the study output. Further, this study does not consider the possible effect of absence of secondary market on dividend policy.

1.8. Organization of the Paper

The study is organized in five chapters. Chapter one discusses the introduction part of the thesis, whereas Chapter two, the literature review, contains theoretical and conceptual framework and detailed discussions of empirical studies on dividend. Chapter three discusses about the research methodologies adopted which are variable definition, hypothesis and operational development in the study; Chapter four discusses about the data analysis and interpretation of the out puts from Stata software. Based on the finding of the study, the final chapter (Chapter five) puts conclusion and recommendation for further researches.

CHAPTER 2 LITERATURE REVIEW

2.1. Introduction

The dividend payment is one of the most vital issues for any firm. The main aim for any firm is to increase its net profit, in order to increase shareholder earnings. In addition, the dividend decision is considered to be one of the most debated issues in financial literature and previous researchers and academics have established several theoretical models to illustrate the factors that managers should take into account when making a decision on dividend distribution. Furthermore, a large number of previous academic studies have highlighted the importance of the determinants of dividend policies. In addition, previous academics and researchers have asserted that dividend policy is one of the top ten unsolved issues in financial research.

2.2. Historical background of Ethiopian bank sector

The agreement that was reached in 1905 between Emperor Minilik II and Mr. Ma Gillivray, representative of the British owned National Bank of Egypt marked the introduction of modern banking in Ethiopia. Following the agreement, the first bank called Bank of Abysinia was inaugurated in Feb.16, 1906 by the emperor. The Bank was totally managed by the Egyptian National Bank and the following rights and concessions were agreed upon the establishment of Bank of Abyssinia.

Within the first fifteen years of its operation, Bank of Abyssinia opened branches in different areas of the country. In 1906 a branch in Harar (Eastern Ethiopia) was opened at the same time of the inauguration of Bank of Abyssinia in Addis Ababa. Another at Dire Dawa was opened two years later and at Gore in 1912 and at Dessie and Djibouti in 1920. Mac Gillivray, the then representative and negotiator of Bank of Egypt, was appointed to be the governor of the new bank and he was succeeded by H Goldie, Miles Backhouse, and CS Collier were in change from 1919 until the Bank's liquidation in 1931.

The society at that time being new for the banking service, Bank of Abyssinia had faced difficulty of familiarizing the public with it. It had also need to meet considerable cost of installation and the costly journeys by its administrative personnel. As a result, despite its monopolistic position, the Bank earned no profit until 1914. Profits were recorded in 1919, 1920 and from 1924 onwards.

Generally, in its short period of existence, Bank of Abyssinia had been carrying out limited business such as keeping government accounts, some export financing and undertaking various tasks for the government. Moreover, the Bank faced enormous pressure for being inefficient and purely profit motivated and reached an agreement to abandon its operation CX and be liquidated in order to disengage banking from foreign control and to make the institution responsible to Ethiopia's credit needs. Thus by 1931 Bank of Abyssinia was legally replaced by Bank of Ethiopia shortly after Emperor Haile Selassie came to power.

The new Bank, Bank of Ethiopia, was a purely Ethiopian institution and was the first indigenous bank in Africa and established by an official decree on August 29, 1931 with capital of £750,000. Bank of Egypt was willing to abandon its on cessionary rights in return for a payment of Pound Sterling 40,000 and the transfer of ownership took place very smoothly and the offices and personnel of the Bank of Abyssinia including its manager, Mr. Collier, being retained by the new Bank. Ethiopian government owned 60 percent of the total shares of the Bank and all transactions were subject to scrutiny by its Minister of Finance.

Bank of Ethiopia took over the commercial activities of the Bank of Abyssinia and was authorized to issue notes and coins. The Bank with branches in Dire Dawa, Gore, Dessie, Debre Tabor, Harar, agency in Gambella and a transit office in Djibouti continued successfully until the Italian invasion in 1935. During the invasion, the Italians established branches of their main Banks namely Bancad' Italia, Banco di Roma, Banco di Napoli and Banca Nazionale del Lavoro and started operation in the main towns of Ethiopia. However, they all ceased operation soon after liberation except Banco di Roma and Banco di Napoli which remained in Asmara. In 1941 another foreign bank, Barclays Bank, came to Ethiopia with the British troops and organized banking services in Addis Ababa, until its withdrawal in 1943. Then on 15th April 1943, the State Bank of Ethiopia commenced full operation after 8 months of preparatory activities. It acted as the central Bank of Ethiopia and had a power to issue bank notes and coins as the agent of the Ministry of Finance. In 1945 and 1949 the Bank was granted the sole right of issuing currency and deal in foreign currency. The Bank also functioned as the principal commercial bank in the country and engaged in all commercial banking activities.

The first privately owned bank, Addis Ababa Bank share company, was established on Ethiopian's initiative and started operation in 1964 with a capital of 2 million in association with National and Grindlay Bank, London which had 40 percent of the total share. In 1968, the original capital of the Bank rose to 5.0 million and until it ceased operation, it had 300 staff at 26 branches (NBE, 2015).

2.3. Review of Dividend Policy Theories

Any company has purpose mainly to increase its profit and increase its shareholders' wealth. In relation to this, there are three main contradictory dividend theories identified by a large number of previous academic studies.

Some group of researchers argues that a stable increase in the payment of dividends contributes to increasing a company's value. While, another group of researchers argue that dividend payments have an inverse influence on a company value. The third group of researcher's state that dividends must be irrelevant and all effort spent on the dividend decision is wasted (Al-Malkawi et al., 2010). These different sets of arguments are explained in five major theories, namely: the irrelevance theory; bird in the hand theory; pecking order hypothesis; dividend policy and agency problems; and dividend and asymmetric information. In the following subsection detailed discussion on these dividend theories is presented.

2.3.1 Dividend's irrelevance theory

The dividend irrelevance theory was first presented by Miller and Modigliani in 1961; they stated that in perfect capital market, where there is no transaction cost, no taxes, no bankruptcy cost, investors are rational, all investors have the same opportunities and information asymmetry is there, dividend policy is irrelevant. The cost of capital and the market value of any firm are not affected by dividend policy. It means that retain cash or paying a dividend does not matter. Nevertheless, there is no model of a perfect capital market, there are investors, transaction costs and firms have to pay taxes and there is an information asymmetry. This type of theory is the basis of modern corporate finance. Miller and Modigliani's irrelevance theory proposes that the value of firms depends on their future and present cash flows and that dividend have no effect on the value of the firm. Importantly, Black and Scholes (1974) and Miller and Scholes (1978) have the same view as Miller and Modigliani (1961).

2.3.2 Bird in the hand theory

The bird in hand theory was presented by Gordon (1959). This theory states that dividends are related to and have a significant influence on the value of a firm. As the name of the theory can be guessed from the adage, "A bird in hand is worth more than two in the Bush." However, the reason behind investors preferring cash in hand rather than future capital gains is that most investors are risk averse. In this theory, the bush refers to future capital gains and the bird in hand to cash dividends. Furthermore, Gordon (1959) suggests that firms paying dividend are giving the impression of generating a lot of

profit and consequently have easy access to capital markets and their valuation is affected by paying dividends.

2.3.3 Pecking order theory

The pecking order theory states that some firms prefer to generate their investment opportunities from internal funds and by announcing dividends. Likewise, firms prefer debt rather than external equity if the internally generated funds are less. However, a large number of previous academic studies have argued that there are two different points of view about why some firms prefer the pecking order theory; the first point of view was given by Donaldson and Preston in 1961. The authors argue that firms prefer internally generated funds over debt because these firms want to avoid the costs related to debt and floatation. In addition, some firms increase funds by debt instead of external equity because the cost of debt is less than the external financing costs. On the other hand, Myers and Majluf (1984) and Myers (1984) gave the second point of view. Their own point of view states that the benefits of the costs related to debt and floatation are less than the total benefits of debt financing from the part of the financial distress risk and tax shield. They also argue that firms want to maximize the wealth of their current shareholders. In addition, their point of view about external funds is that some firms prefer to raise funds by debt instead of external funds. This is because the sale of new shares will negatively influence the price of current shares, which is against the interests of the current shareholders. In addition, they have another view, which is that risk free debt has no effect on shareholder wealth.

2.3.4 Dividend policy and agency problem

The management representatives implement the level of dividend payment as a level determined by shareholders preference. However, the effects of dividend payment are borne by managers, suppliers and the variety of stockholders as well as the debt holders. The agency relationship is between a debt holder's conflicts versus shareholders, and the management conflict versus shareholders. The shareholder is the only receipt of a dividend, and these are preferably large dividend distributions, all else being equal. On the contrary, the creditors prefer to restrict dividends to maximize the firm's available resources to pay their claims. The experimental evidence discussed in the literature is reliable with the view that dividends transfer a firm's assets from a corporate pool to exclusive ownership, which has a negative effect on the safety of the claims of the debt holders. On the one hand, in terms of shareholders relations with the managers of the company they own, everything being equal, managers, whose compensation (financial and otherwise) is linked to a fixed profitability and size, are interested in ensuring dividend pay-outs at a low level. The distribution of low dividends increases the size of the assets under management control, giving management more flexibility in choosing

investment, and reducing the requirement of capital markets to finance the company's investments. Shareholders desire to manage the necessity of capital markets to finance investment. Shareholders need a degree of managerial efficiency for investment decisions; they prefer to keep a little estimated cash with the management and to let managers access the capital markets to fund investment. This market provides services that adjust managers. Therefore, dividend policy can be used by shareholders to encourage managers to act in their investors' best interests; a high pay-out provides more managerial discipline and more observation by capital markets.

2.3.5 Dividends and asymmetric information

In a symmetric information market, all the interested participants have similar information about the firm, such as shareholders, managers, bankers, and others. Informational asymmetry exists when one of these has a superior amount of information about the current situation or future prospects of a firm. Financial practitioners and most academics believe that managers of firms have superior information about their companies than other interested parties. Any changes of dividend, such as increases or decreases, or the initiation of dividends such as the resumption of a dividend after lengthy pause or first-time dividends, should be regularly announced in the financial media. Responding to these announcements, dividend initiations and an increase in dividend usually increase the share price, and dividend eliminations and decreasing dividends usually decrease the share price. The idea financial markets take from a dividend pay-out can be that it is a signal of a firm's future prospects. The idea that dividend pay-outs can be a signal for a firm's prospects seems to be well accepted between the chief financial officers of large US corporations (Kapoor, 2006). Future investment opportunities and a firm's current projects may be one of the items of information that give an indication of the prospects of any firm. Empirical studies done by many researchers, such as the Miller and Rock model (1985), John and Williams model (1985) and the work of Kale et al. (1990) indicate that a firm's dividend policy, whether it is combination with other signals or exclusively, such as trading by insiders or the announcement of capital expenditure, may connect this information to market with less information.

2.3.6 Signaling theory

The signaling theory proposes that dividends transfer information about the future or current level of earnings. In this respect, Ghosh and Woolridge (1988) argue that dividends convey information, while Kale et al. (1990) state that dividend can be considered to be a signal of the stability of a firm's future cash flows. Therefore, cash flow variability can be used to examine the relationship between dividends and the stability of cash flows. Signalling theory was first presented in the 1980s, and is designed to reflect the importance of asymmetric information between managers and shareholders. Healy and

Palepu (1988); Kalay and Loewenstein (1985); Asquith and Mullins (1986); and Aharnoy and Swary (1980) state that signalling theory reveals how dividends act as a leak of private information signal about the company and its performance and could be used as a tool. Besides that, investors care about how the information they are able to collect from the signals that have been obtained from dividend announcements foretell the company's future profit, dividend policy and stability. Importantly, some assumptions should be held for this to be true.

2.4. Empirical Studies on the Determinants of Dividend Policies

2.4.1 Global literatures

A large number of previous academic studies have introduced detailed evidence on the determinants of dividend policies in different countries and regions. For example, Tsuji (2010), Singhania and Gupta (2012), and Asad and Yousef (2014) examined the determinants of dividend policies in Asia. The authors claim that dividend payments, a firm's growth, and its investment opportunities have significant impact on dividend policy. On the other hand, other researchers have concluded contradictory findings. For example, Baah et al. (2014) and Nuhu et al. (2014) both state that profitability and company leverage are the main determinants of dividend policy. In the same context, Ow-Yong et al. (2012) and Vaihekoski et al. (2014) examined the determinants of dividend policies in the Euro zone.

According to many previous researches, dividend payment is one of the most vital issues for any firm. The main aim for any firm is to increase its net profit, in order to increase shareholder earnings. In addition, the dividend decision is considered to be one of the most debated issues in financial literature and previous researchers and academics have established several theoretical models to illustrate the factors that managers should take into account when making a decision on dividend distribution. Furthermore, a large number of previous academic studies have highlighted the importance of the determinants of dividend policies. In addition, previous academics and researchers have asserted that dividend policy is one of the top ten unsolved issues in financial research. (Bassam Jaara , Hikmat Alashhab , Osama Omar Jaara, 2018)

For long time profitability was considered as the primary indicator of a firm's capacity to pay dividends. After the survey by Lintner (1956) on 28 selected companies in USA, major changes in earnings with existing dividend rates are the most important determinants of dividend policy. The empirical findings of his survey have also been supported by the following studies of Fama and Babiak (1968), Ryan (1974), Shevlin (1982) and Allen (1992). Similar findings have been obtained in studies

by Baker et al. (1985), Pruitt and Gitman (1991) and Baker and Powell (1999) indicating that the major determinants of dividend payments are the anticipated level of future earnings and the pattern of past dividends; and dividend payments are influenced by the current and the past years' earnings, the year-to-year variability of earnings and the growth of earnings, respectively (Demirgünes, 2015).

The studies of Nissim and Ziv (2001), Amidu (2007), Howatt et al. (2009), Ajanthan (2013) and Leon and Putra (2014) also empirically indicate a positive and significant relationship between profitability and dividend policy. In contrast to this, findings of Farsio et al. (2004) and John and Muthusamy (2010) conflict with these results. Farsio et al. (2004) argue that there is no significant relationship between dividends and earnings in the long-run, and previous studies supporting this relationship are based on short periods and therefore misleading to potential investors. Because firms paying high dividends without considering investment needs may therefore experience lower future earnings. And according to John and Muthusamy (2010), profitability (return on assets) is negatively related to dividend payout ratio. While firms with larger profits tend to pay more dividends, ones facing uncertainty about (expected) future profits adopt lower dividend payments.

As discussed by Alli et al. (1993) and Mahapatra and Sahu (1993) liquidity is the other determinant of policy of firms, which is discussed in terms of free cash flows. In their paper they argue that dividend payments depend more on cash flows than on current earnings. Also studies of Amidu and Abor (2006), Afza and Mirza (2010), and Thanatawee (2013) find out that there exists a positive relationship between cash flow and dividend payout ratio. This is because relatively liquid firms with stable cash flows tend to pay higher dividends as compared to firms with unstable cash flows. But, Barclay et al. (1995) came up with new finding, in which there exists negative relationship between liquidity and payout ratio suggesting that increase in payout ratio reduces firm's liquidity level, therefore lowering dividend payments. Ahmed and Javid (2008) confirm the same finding; while Adedeji (1998) does not find any relationship between liquidity and dividend policy.

The other determinant of dividend policy indicated by studies was growth (in net sales). According to Higgins (1972), there is a negative relationship between dividend payout ratio and firm's need for funds to finance growth opportunities. His study was supported by the studies of Rozeff (1982), Lloyd et al. (1985), Collins et al. (1996), Amidu and Abor (2006), and Gill et al. (2010). In all of these studies it was indicated that, there is a negative relationship between dividend payout ratio and sale's growth. This is because firms either experiencing or expecting higher growth rates may need to keep dividend payouts lower to avoid the costs of external financing. Later on, contrasting findings were obtained by different studies. Arnott and Asness (2003) surprisingly conflicts with usual, pointing a positive

relationship between dividend payout ratio and growth. Gwilym et al. (2006), Ping and Ruland (2006) and Vivian (2006) also support further evidence to findings of Arnott and Asness (2003). The confliction here may be due to choose of growth variable and sample, and empirical methodology undertaken.

In empirical studies searching for the determinants of corporate dividend policy, variability of earnings, equity beta coefficient and leverage ratio have been used as indicators of risk. Pruitt and Gitman (1991) reveal that risk in terms of year-to-year of earnings is also a determinant of dividend payout ratio. Firms with stable earnings tend to pay out a higher amount of dividend than firms with unstable earnings, because their future earnings are more predictable. Estimating betas for 307 US firms, Beaver et al. (1970) finds significant correlation between beta and dividend payout ratio. Then Rozeff (1982), Lloyd et al. (1985) and Collins et al. (1996), again using beta coefficient to proxy for risk, point out that firms with relatively high betas will pay out lower amounts of dividend. Studies of D'Souza and Saxena (1999), and Al-Najjar (2009) argue that leverage affect dividend payout ratio negatively and firms with higher debt tend to reduce their dividend payments.

Market-to-book value ratio indicates the value that the market places on the common equity or net assets of a firm (Lee and Makhija, 2009) and is a reflection of the ability of firm managers to use assets effectively and to grow the firm. Omran and Pointon (2004) points out its importance as a determinant of dividend payout policy. Agyei and Marfo-Yiadom (2011), Gul et al. (2012) and Priya and Nimalathasan (2013) conclude that there exists a positive relationship between dividend policy and shareholders' wealth (firm value). They find out that firms paying higher dividends consequently increase the wealth of their shareholders. Contrary to their findings, D'Souza and Saxena (1999), and Amidu and Abor (2006) posit a negative relationship between market-to book value and dividend payout ratios. Several studies find supporting evidence for the effect of tax on dividend policy. Studying on the clientele effect of dividends, Pettit (1977) concludes that retired investors and pension funds tend to prefer cash income and may therefore want the firm to pay out a high percentage of its earnings. A model proposed by Allen et al. (2000) indicates that dividends attract institutional investors as they taxed less than retail investors. Studies of Frankfurter and Lane (1992), Dhaliwal et al. (1999) and Seida (2001) also find similar empirical evidence supporting the existence of the tax preference theory. However, contrary to these findings, other studies - especially on institutional investors - fail to find support for the theory. Grinstein and Michaely (2005) find no evidence that institutional investors really favor dividend paying firms. A recent study of Barclay et al. (2009) also presents similar conclusion.

2.4.2 Local literatures

Tesfaye (2017) conducted research on determinants of dividend policy in Ethiopian private banks. The author used a panel fixed effect regression model. Factors including profit, leverage, liquidity, retained earnings, loan loss provision, lagged dividend payout, economic growth rate and inflation rate are studied by the author.

Firms prefer to pay more dividends when firm size were large; this supports agency cost theory where dividends are used as a tool to agency conflict, it also implies large firms have better access to raise fund and distribute dividend to shareholders better than smaller firms. In addition, this, firms in which their liquidity were low paid higher dividend compared to the firms with high liquidity ratio. In Ethiopian banking sector dividend is the function of inverse relationship of liquidity; this Inverse relationship might the sigh of inefficiency of banks for holding excess amount of liquid asset, the inefficiency might be due to banks loan to deposit management problem or as a result of government interventions; credit limit were imposed on banks in 2008 as a means of controlling inflation and increased reserve requirements of the banks which eventually lead banks to miss significant amount of interest (income) from uninvited excess liquid asset (Kinfe, 2011).

The models also revealed that previous year's dividend payout ratio (LDPS) was an additional variable of both models that affected dividend payout ratio of the firms. This would imply that, Ethiopian banks are found to act quickly to increase dividend payments, confirming the traditional view firms have higher propensity to increase dividends compared to their propensity to reduce dividends. But, the statistical significance of LDPS cannot infer that Ethiopian bank strictly adhered to Lintenr's dividend stability. Because, divided stability is the function of profitability as well as LDPS while profitability variable (EPS) was found to be statistically insignificant (Kinfe, 2011).

Daganaw (2009) conducted a study on the dividend practice of private banks in Ethiopia Banks. The author has used seven independent earnings, debt to equity ratio, liquidity and dividend policy as a dependent variable. The finding showed that positive linear relationship between dividend per share and earnings per share, dividend per share and debt to equity ratio of the banks. Other determinants like tax considerations, ownership structure, agency problem and legal restrictions are also found to be important determinant factors on the dividend decision of the banks.

Temesgen (2016) tried to explore the determinant factors of corporate dividend payout in the Ethiopian private insurance industry. To achieve the objective the researcher used a mixed research approach and 12 years panel data was collected from seven private insurance companies for the years (2001-2012).

The result of the study revealed that earning per share, liquidity, age of a company in its life cycle and regulation on dividend taxation have a positive and statistically significant relationship with the dividend.

Table 1 Summary of Ethiopian empirical findings

Author and Date	Title and Case study	Methodology	Variables considered	Research gaps in this thesis
H/Mariam (2013)	Determinants of dividend policy of banks in Ethiopia.	fixed effect model Panel data	Industry factor and specific factors	fixed effect panel regression model and macro-economic factor, industry factors and specific factors
Daganaw (2009)	A Study On The Dividend Practice Of Private banks in Ethiopia	Linear Regression model	Industry factor and specific factors	fixed effect panel regression model and macro-economic factor, industry factors and specific factors
Samuel (2016)	Determinants of dividend policy of insurance companies in Ethiopia	OLS	Industry factor and specific factors	fixed effect panel regression model and macro-economic factor, industry factors and specific factors,
Kinfe (2011)	Determinants of dividend payout of private banks in Ethiopia	Linter"s model,	Industry factor and specific factors	fixed effect panel regression model and macro-economic factor, industry factors and specific factors

| Tesfaye (2017) | Determinants of dividend policy In Ethiopian private banks | panel fixed effect regression model | Industry factors and macro-economic factors | fixed effect panel regression model and macro-economic factor, industry factors and specific factors |

2.5. Gaps in literature

In this chapter the researcher reviewed both theoretical and empirical literatures related to dividend payout theory. From the review the researcher found that there are many studies conducted on the subject area. However, A dividend is a puzzle that results from the existence of dividend policy in a real-world that is multivariate and complicated (DeAngelo et al., 2008). However, their corporate characteristic is quite different from developing countries (Badu, 2013). Differences in culture, corporate governance, tax, information asymmetry, investors' attitude, and ownership structure are the differences mentioned by (Al-Malkawi et al., 2007). Thus based on the gap and previous studies conducted conceptual framework of this study is structured as follows;

| **Profitability** |
| Leverage |
| Firm size |
| liquidity |
| Growth of firms |
| Previous year dividend |
| Economic growth |
| Rate of inflation |

Affects → Dividend payout policy
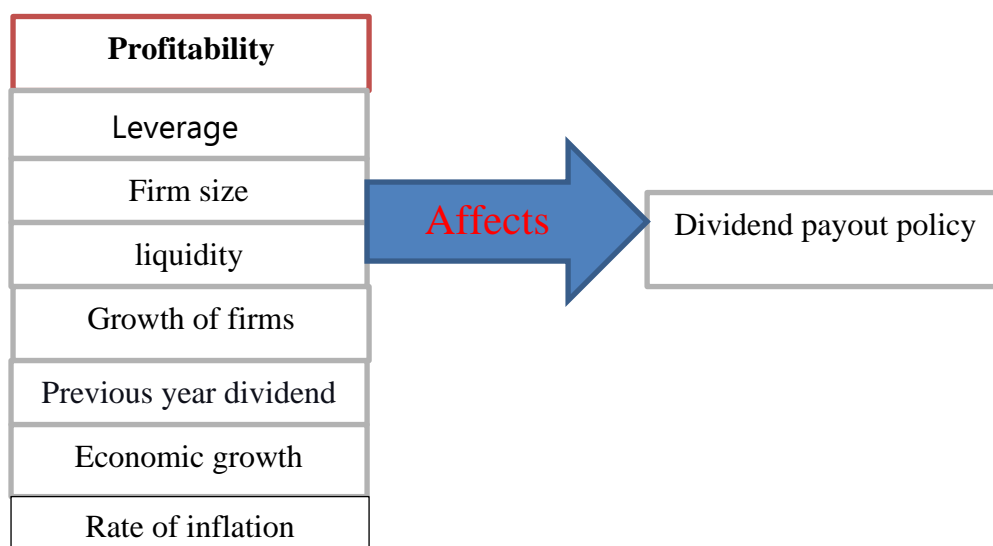
Source: Adopted from Rafique (2012)

CHAPTER 3   METHODOLOGY

3.1. Research Approach

Research approach refers to the methods of data collection, methods of data analysis, interpretation, and methods of communicating findings, validation and the questions to be addressed. The selected strategy of inquiry equally determines the research methods. There are three research approaches that are available for conducting a given research. These are qualitative, quantitative and mixed, which is the hybrid of the quantitative and qualitative approach. The quantitative approach is for only number matters or for specific and only one answer whereas the qualitative deals with subjective matters. Hence each individually limits the research to meet the expected result. In this study quantitative research approach is used. The reason is that all the data used in the study is a quantitative data. Also, the effects of the dependent and independent variables on the dividend payout policy are determined as quantitative values.

3.2. Research Design

Research design is the framework of research methods and techniques chosen by a researcher. The design allows researchers to hone in on research methods that are suitable for the subject matter and set up the study up for success. A research design is a systematic approach that a researcher uses to conduct a scientific study. It is the overall synchronization of identified components and data resulting in a plausible outcome. Hence, in this study explanatory and quantitative research design will be used. Explanatory research design examines the cause-and-effect relationships between the dependent and independent variables. Quantitative research involves counting and measuring of events and performing the statistical analysis of a body of numerical data. Moreover, it involves testing the effects of variables whose data are expressed quantitatively. The main concern of quantitative paradigm is that measurement is reliable, valid, and generalized in its cause and effect (Cassell and Symon, 1994).

3.3. Data Source and Scope

In this study secondary data collected from 12 purposively selected private commercial banks was used. These banks are Abyssinia, Awash, birhan international, buna international, cooperative bank of oromiya, Dashen, lion international, Nib, oromiya international, United, Wegagen and zemen bank for the period from 2011 to 2020 covering 10 years data. Financial statement related data like capital adequacy, Liquidity, Loan, overhead, deposit to total Asset ratio, reserve ratio, bank Size and non-Interest Income will be collected through document reviews mainly from the records held by NBE and

the banks themselves. While macroeconomic data like inflation and gross domestic product will be collected from World Bank database or The Ministry of Finance & Economic Cooperation (MoFEC).

3.4. Population and Sampling Methods

The investigator utilized Purposive sampling technique for selecting the sample units from population. The rationale behind selecting purposive sampling techniques than others is, it considered more appropriate when the universe happens to be small and a known characteristic of it is to be studied intensively. Therefore, the researcher will take **12** of them. The ground behind selecting six banks out of the total population is based on the following criteria's:

❖ Ownership structure (only private commercial banks are included in the study). Here, cooperative banks are excluded from the study since their purpose of establishment is different from commercial banking business.

❖ Time establishment (only banks' who have five and above years' experiences in the banking operations included). This indicates reasonable time is necessary to look changes in the business of banking.

The population of the study can be taken as all private banks in Ethiopia. Currently, there are eighteen banks in Ethiopia. These are Commercial Bank of Ethiopia, Development Bank of Ethiopia, Debub Global Bank S.c, Enat Bank S.c, Addis International Bank, Awash International Bank, Dashen Bank, Coperative Bank of Oromia, Bank of Abyssinia, United Bank,Wegagen Bank, Nib International Bank, Oromia International Bank S.c, Lion International Bank,Berhan International Bank S.c,Bunna International Bank S.c,Zemen Bank S.c and Abay Bank S.c. Two of them (Commercial Bank of Ethiopia and Development Bank of Ethiopia) are governmental banks. From the remaining sixteen private banks, 12 private banks were used as sample covering time period from 2011 to 2020.

3.5. Method of data analysis

According to the nature of data which the researcher will collect, both descriptive and econometric techniques were employed. The descriptive part of the study helps the researcher to describe the effects of different variables with respective to desired characteristics. The descriptive statistics that included in this study are quantitative measures such as mean, standard deviation, and trends of variables. The study also used panel linear regression model to show the relationship between the dependent variables and independent variables. The model estimation technique will be panel data using stata 14.2 econometric software.

3.6. Model Specification

Panel data involves the pooling of observations on a cross-section of units over several time periods and provides results that are simply not detectable in pure cross-sections or pure time-series studies. The panel regression equation differs from a regular time-series or cross section regression by the double subscript attached to each variable. The general form of the panel data model adopted from Davydenko, (2010), Athanasoglo*et al.*, (2005) and Berger *et al.*, (2000), BirhanuTsehay, (2012) piror theoretical model can be specified more compactly as follow:

$$Y_{it} = \alpha + \sum \beta_k X_{it} + \varepsilon_{it}$$

Yi,t= α + βxi,t+ ϵi,t With the subscript i denote the cross-sectional dimension and t representing the time-series dimension. In this equation, Yi,t represents the dependent variable in the model, which is the firm's dividend payout ratio; Xi,t contains the set of explanatory variables in the estimation model; and α is constant term over time t and cross-sectional unit. α is taken to be the same across units, and ϵi,t represents error term over time t and cross-sectional unit which are not observable in the regression. in the panel regression analysis, there are two commonly used estimation techniques. These are fixed effect and random effect model. To identify which estimation technique is appropriate for the data under consideration hausman specification test wasused (Brooks, 2008). The study used fixed effect panel regression technique to analyze the impact of bank specific, industry specific as well as macroeconomic determinants on Ethiopian commercial banks profitability. The general model to be estimated is the following linear forms which, is adopted from Davydenko, (2010), Athanasoglo*et al.*, (2005) and Berger *et al.*, (2000), BirhanuTsehay, (2012) piror theoretical model.

The equation that account for individual explanatory variables which are specified for this particular study is given as follows.

$$DVPO_{it} = \alpha + \beta_1 PRO_{it} + \beta_2 LEV_{it} + \beta_3 LIQ_{it} + \beta_4 GR_{it} + \beta_5 LDVP_{it} + \beta_6 FS_{it} + \beta_7 ECOG_{it} + \beta_8 INF_{it} + \varepsilon_{it}$$

Where DVPO is Dividend payout, PRO = Profitability, LEV = Leverage, LIQ = Liquidity, GR = Growth, LDVP = lagged dividend paid out, FS= Firm Size, ECOG= Economic growth and INF= Inflation.

Definition of variables

Descriptions of Dependent Variable

Dividend Payout Ratio; The dividend payout ratio is defined as the percentage of the company's earnings that is distributed to shareholders or reflecting the percentage of net income (available for shareholders). In this study dividend payout ratio is calculated based on Samuel's (2016) formula as total dividend divided by net profit of the bank.

Independent Variables

Profitability: is measured as Net income divided by Total equity (Christopher, 2014); (Freeman et al., 1982). It has been found as one of the most essential determinants of dividend payout policy (Linter (1956), and Christopher and Rim (2014)). According to the signaling theory of dividend policy, profitable firms are willing to pay higher amounts of dividends to convey their good financial performance (Chang & Rhee, 2003). Besides, both the available previous works on dividend in Ethiopia, (Kinfe, 2011) and (Nuredin, 2012) confirms this positive association. Therefore, a positive relationship is expected between a firm's profitability and dividend payments. As a result, the researcher formulates its hypothesis as follows profitability will have positive and significant impact on dividend policy of Ethiopian private bank.

H1: profitability positively and significantly affects dividend payout policy of Ethiopian private bank.

Leverage: in this study the ratio of total debt (both short-term and long-term debts) to total assets is used as a proxy for leverage. the effect of leverage on dividend payout is mixed regarding empirical evidence. some studies found that firms with high debt ratios are willing to pay fewer dividends (jensen, 1992); (al-malkawi et al., 2007) since they are committed to fixed payments to service their debt, which restricts the distribution of dividends. however, (kania & bacon, 2005) conclude that firms might use debt funds to pay dividends by founding a significant positive relationship. as a result, the researcher formulates its hypothesis as leverage has a negative and significant impact on dividend policy of Ethiopian private banks.

H2: leverage has negative and significant effect on dividend payout policy.

Liquidity: Firm liquidity position also affects dividend payout. liquidity is measured by cash and cash equivalents to total deposits. Despite sufficient retained earnings, the firm may not able to pay cash dividends if the earnings are not held in cash. In this case, the company declares stock dividends instead of cash dividends. Due to these, it will be very important to compare a firm's liquidity position with its

dividend payment. Liquidity measures the extent to which a firm can meet its payment obligations. According to the signaling theory, firms with higher cash accessibility can pay higher dividends than firms with insufficient cash (Gupta &Banga, 2010). Furthermore, according to agency theory, Jensen et al. (1986) argued that firms with high cash flows pay higher dividends to diminish the agency conflict between. their managers and shareholders. Also, Christopher (2014) found liquidity is an essential factor that affects the dividend policy. Anil &Kapoor (2008) indicate that cash flow is an important determinant of the dividend payout ratio. Hence in this study it is hypothesized that highly liquid firms, i.e., firms with higher cash and cash equivalent assets, pay higher dividends to shareholders than those with insufficient cash.

H3**:** liquidity has positive and significant effect on dividend payout policy

Growth of firms - The change in revenues is used as a proxy for growth opportunities. If a firm is growing rapidly, the more is the need for funds to finance the expansion, and the more likely the firm is to retain earning rather than to pay them as dividends. It is calculated by (Current Revenue - Previous Revenue) / Previous Revenue and multiplied by 100%. It is hypothesized that growth of firm will have negative effect on dividend payout policy of Ethiopia.

H4**:** growth of firms negatively and significantly affects dividend payout policy

Firm Size: The size of the firms is measured by the natural logarithm of total assets as used by (Christopher, 2014) and is included to account for size variability. With access to capital, better credit rating, and more customers large companies tend to be more competitive, this will increase their profitability and their ability to pay higher dividends (Dickens et al., 2002). Supporting this logic, (Lloyd (1985); Jensen (1992) and (Fama, & French, 2001)), found a positive relationship between dividend payout policy and firm size. As a result, the researcher formulates its hypothesis as firm size will have positive and significant impact on dividend Policy of Ethiopian private commercial banks.

H5**:** firm size has positive and significant effect on dividend payout policy

Firms' previous year dividend payment is expected to affect the dividend policy positively. Linter (1956), stated the primary indicator of a firm's capacity to pay dividends is the previous year's dividend payments. The model was tested and reaffirmed by Fama & French (2001), who concluded that the previous year's dividends positively affect the current dividend payout ratio of a company. In reality, because investors perceive firms with stable dividends as stronger and more valuable it is often believed

that companies pay a steady stream of dividends. As a result, the researcher formulates its hypothesis as follows;

H6: Previous Year Dividend has a Positive and significant impact on dividend payout policy of Ethiopian private banks.

GDP Growth Rate: This is measured by the real annual GDP growth rate, is expected to impact banking profitability positively. Economic growth can enhance bank's profitability by increasing the demand for financial transactions, i.e., the household and business demand for loans. During periods of strong economic growth, loan demand tends to be higher, allowing banks to provide more loans. Strong economic conditions are also characterized by high demand for financial services, thereby increasing the bank's cash flows, profits and noninterest earnings. Accordingly, fewer loans would be defaulted during strong economic conditions. Thus, it is expected to have positive impact on performance.

H7**:** GDP growth rate has positive and significant impact on dividend payout policy of Ethiopian private bank.

Inflation Rate: The findings of the relationship between inflation and profitability are mixed. Although the studies of Guru et al., (2002) in Malaysia showed that higher inflation rate leads to higher bank profitability. The study of Abreu and Mendes (2000), nevertheless, reported a negative coefficient for the inflation variable in European countries. Based on the previous studies finding it is hypothesized that rate of inflation will have negative significant effect on dividend payout policy of private commercial banks.

H8**:** inflation rate has negative and significant impact on dividend payout policy of Ethiopian private bank.

3.1.1 CLRM Assumptions and Model Selection

Classical linear regression model works only if assumptions of CLRM are maintained and hold true. Heteroskedasticity, Multicollinearity and Normality are the major assumptions of CLRM for panel data set. The validity of each assumption is checked based on appropriate and respective diagnostic tests that either the assumption is valid or not, i.e. different diagnostic tests are carried out to ensure that the data suits the basic assumptions of classical linear regression model. If there is violation of assumption, there are remedies to be made on the data to hold CLRM assumptions.

3.1.1.1 Normality

Under normality assumption, error terms of the population that is represented by error term of the sample called ε which is the unobserved error is assumed to be normally distributed in the population. This means the population error is not dependent up on explanatory variables. Given that the error terms are not normally distributed implies that t and f statistics will not have t and f distribution respectively (Wooldridge, 2009). This is to mean the identification and determination of significant explanatory variables will be difficult. The unobserved term can be expressed as the difference between the actual value of the dependent variable and the predicted value of the same dependent variable. Normality assumption has no role in showing that the OLS estimators are the best unbiased estimators Ibid. One of the most commonly applied tests for normality is the Bera-Jarque (BJ) test. BJ uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments – the mean and the variance Brooks (2008). We will use BJ normality test to test the null hypothesis of normally distributed errors assumptions.

3.1.1.2 Homoscedasticity

Homoskedasticity of data set is the other assumption of CLRM. Homoscedasticity or constant variance assumes that error term (e) has the same variance given any value of independent variables. Having different measure of dispersion of error means violation of homoscedasticity and the data is supposed to be suffered with heteroskedasticity problem. If heteroskedasticity exists, the estimators of the ordinary least square method are inefficient and hypothesis testing is no longer reliable or valid as it will underestimate the variances and standard errors. Heteroskedasticity problem means error terms do not have a constant variance (Brooks, 2008). Homoskedasticity assumption helps to get important efficiency properties of OLS. The assumption requires that variance of unobserved error does not depend on the level of independent variables (Wooldridge, 2009). The nature of the variance of the error term is judged via Breusch- pagan test (Gujarati, 2004).

3.1.1.3 Tests for Autocorrelation

This assumption is a requirement for time series data. This study uses balanced panel data. Panel or longitudinal data is the type of data about something from different entities over time. Longitudinal data comprises unique feature from both time series and cross-sectional data types (Gujarati, 2004). It is pooling of time series data. Since test of autocorrelation is a requirement for time series data in most of the time, this test may not be applied for panel data (Wooldridge, 2009).We will use Durbin's alternative test to check whether there is autocorrelation in the model or not.

3.1.1.4 Test for Model Specification between Random and Fixed Effect

Given panel data set, there are two most prominent models that are applied for regression analysis. These models are fixed effect and random effect GLS model (Gujarati 2004). In fixed effect model intercepts of each cross section vary but they do not change over time which means it is time invariant Ibid. whereas in random effect model, each cross section is assumed to have common mean value for slope estimators (Hossain 2012). The diagnostic test that is applied to get the appropriate model for this data set is HAUSMAN test developed in 1978. To identify the appropriate model, STATA stores both (fixed effect (FEM) and random effect (REM)) results of the panel data set and then check the stored result to identify which model is appropriate using p values based on preset hypotheses.

CHAPTER 4 RESULT AND DISCUSSION

4.1. INTRODUCTION

This chapter presents analysis of panel data of the selected banks in Ethiopia for the period from 2011 up to 2020 and the findings of the study. The variables used in the study includes: dividend pay-out ratio, profitability, leverage, liquidity, firm growth, firm size, growth of GDP, and rate of inflation. The chapter includes summary statistics of the study, trend analysis and econometrics result of the study.

4.2. Summary statistics of variables

As can be seen from the table below the mean value of dividend pay-out ratio is 43.50% with minimum and maximum of 0 and 71.43% respectively. Its standard deviation is 33.28% which shows deviation from it mean value. The mean value of profitability is 3.24% with standard deviation of 1.67 %. According to Parvesh and Sanjeev (2016) Banks can maintain an adequate liquidity position by either increasing current liability or quickly converting their assets in to cash. For the purpose of this study, the ratio of cash and cash equivalents to total deposits was used as a measure for liquidity. The mean value of liquidity being 36.02% displayed that the banking sector was moderately liquid during the study period, which is more than doubles for the current minimum regulatory requirement of National Bank of Ethiopian which is 15% (NBE Directives No. SBB/57/2014).

Concerning to leverage, the average of debt ratio of the sampled firms is 80.33 percent. It discloses that debt represents nearly 80.33 percent of the capital of private banks. The highest debt ratio for a company in a particular year 0.9213 and the minimum ratio for a company in a year is 57.65%. The standard deviation is 0.96; the result indicated that leverage can deviate from its mean to both sides by 96 percent. As far as the size of the private banks (natural logarithm of total assets) concerned, the mean of size over the period 2011 up to 2020 is 9.33 and standard deviation for the size variable 0.98. The size of private banks in the industry during the study period ranges from minimum of 6.66 to maximum of 11.4. The variation in size during the study period indicates that private banks have been growing in size during the study period. Related to this the mean growth of private commercial banks used in this study is 0.47 or 47 percent, which means each year the average change in revenue is 42 percent with minimum and maximum growth rate of negative 28.2 and 67 percent respectively.

The **real GDP growth** rate used in the empirical analysis averaged 9.1 percent between 2011 and 2020 ranging from 5.27 percent to positive 11.39 percent with a standard deviation statistic of 1.64 percent. This growth variation among across time in the country may be because of occurrences in domestic

and external factors such as continuous deterioration in terms of trade, falling commodity prices, global economic downturn and financial crisis in the international economies. The mean value of the inflation rate in the country is 15.6 percent for the period 2011 to 2020. The minimum and the maximum value of this variable are 7.4 percent and 38.04 percent respectively. The variation from the mean for inflation rate is 9.4 percent. This highest variation from the mean is an indication of macro-economic instability in the region through overall price increasing, which affects economic activities.

Table 2 Summary statistics of variables

Variable	Obs	Mean	Std. Dev.	Min	Max
dpr	120	.4350443	.3328612	0	1.7143
profit	120	.032455	.0167331	.0037	.0755
liquidity	120	.3602158	.1653351	.0937	.9671
leverage	120	.8033425	.0967583	.5765	.9213
laggeddivi~d	120	.4118642	.3369763	0	1.7143
growth	120	.471625	.6928833	-.2816	6.6954
firmsize	120	9.331437	.9838211	6.6606	11.3996
gdprate	120	9.16959	1.502773	6.1253	11.386
inflation	120	15.46493	9.151032	7.3904	38.0441

Source: own computation using stata 14.2

4.3. Trend analysis of variables

4.3.1 The relationship between dividend pay-out ratio and Profitability

For all banks used in this study profitability trend is almost steady, which means there is no indication for increments or decrements. For Oromia international bank profitability and dividend pay-out ratio shows clear relationships, and in some years, they become tangent, which means the rate of profit and dividend are equal indicating the bank pays all profit rate as dividend during the year. The same case happens for Dashen, cooperative bank of Oromia and awash international bank. However, for other banks the two variables are not intersected or becomes tangent.
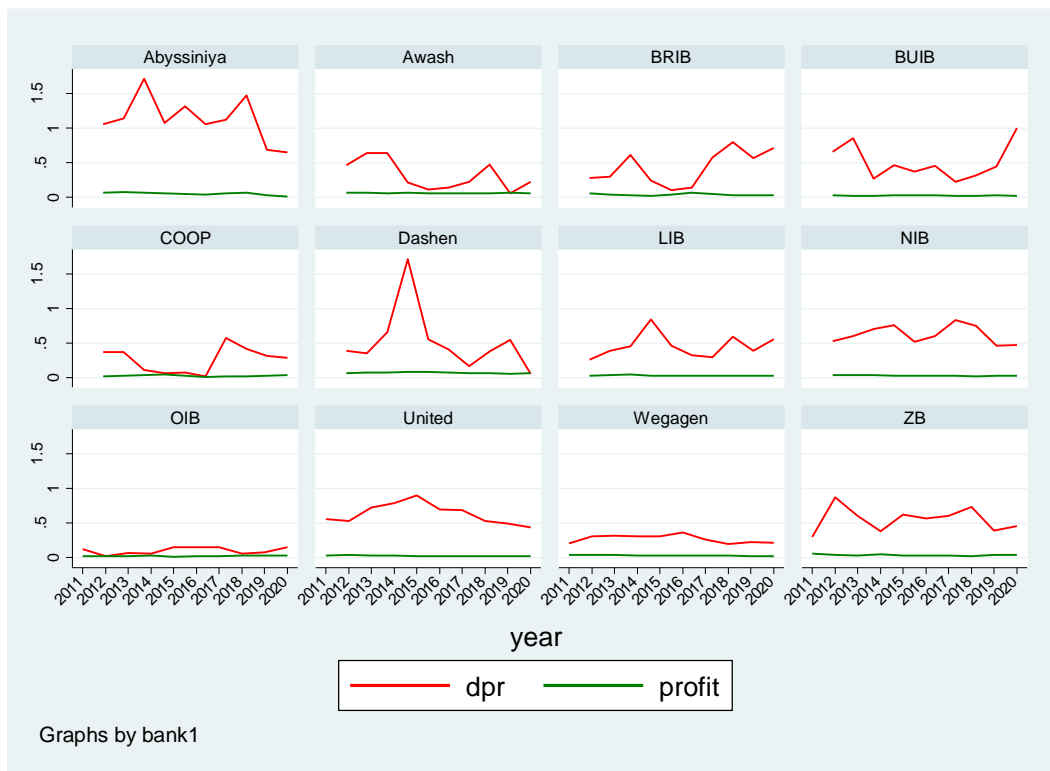
Figure 1 Relationship between dividend pay-out ratio and Profitability

Source: own computation using stata 14.2

4.3.2 The relationship between dividend pay-out ratio and liquidity

Figure 4.2 presented the trend of return on equity and liquidity of banks for all sample commercial banks under the study period. Liquidity indicates that the ability of the bank to meet its financial obligations in a timely hand effective manner. As per the graph below though each bank has different liquidity performance, the predicted graph shows that dividend pay-out ratio and liquidity have direct relationship. For Abyssinia bank 2013/14 both liquidity and dividend pay-out ratio increase, but after 2014 it shows decreasing trend. On the other hand, oromiya international bank has constant trends on both variables. Relatively Dashen bank has higher fluctuation in its dividend pay-out ratio and liquidity. Specifically, from2011 to 2012 the trends of liquidity for bank of Abyssinia decreases from 56.8% to 54.91% and in 2013 it increases to 96.7% then after liquidity trend for the bank shows decreasing trend. On the other hand, liquidity trend for awash international bank from 2011 to 2017 shows increments' and from 2018 to 2019 the reverse is true. United bank showed increasing trend from 2015 to 2019 i.e., 61 % to 79.3%, 53.11 % to 73.83% and 58.10 % to 74.7 % respectively. However, cooperative bank of Oromia recorded downward trend from 2011 to 2012 i.e. 85.1 % to 65.01%, and it increases in 2013 to 96.7%. After 2018 liquidity of cooperative bank of Oromia shows downward trend. For the remaining commercial banks, the liquidity trend ware almost stagnant.

Figure 4-2 Relationship between dividend pay-out ratio and liquidity

Source: own computation using stata 14.2

4.3.3. The relationship between dividend pay-out ratio and Leverage

The trends of leverage measured as the ratio of total debt to total asset shows different performances for different banks. For instance, leverage rate is greater than dividend pay-out ratio for banks like awash international bank, cooperative banks of Ethiopia, oromiya international bank, Wegagen bank, zemen bank, Berihan international bank, lion international bank, and united bank. On the other hand, for Dashen, Buna international bank in some years leverage is greater than dividend pay-out ratio and in some years the reverse happens. This may because leverage will increase through three ways. These are when debt increases total, but total asset is fixed, total asset decreases, but total debt is fixed, and both increases, but the rate of debt is greater than total asset. In that dividend pay-out ratio will have negative relationship with total debt, but it will have positive relationship with total asset.
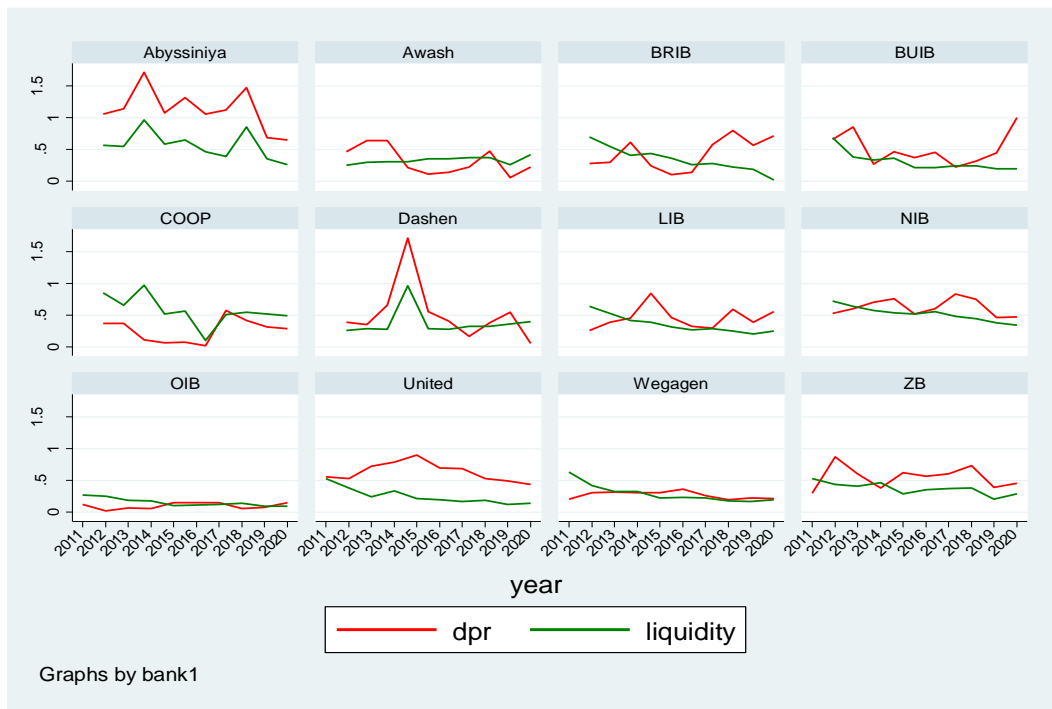
Figure 3 Relationship between dividend pay-out ratio and Profitability

Source: own computation using stata 14.2

4.3.3 The relationship between dividend pay-out ratio and firm growth

Recent experiences have shown that growing firms tend to pay lower dividends. There will be a high demand of capital if a firm is fast growing. The pecking order theory states that firms should finance new projects first with least information-sensitive sources. Also, firms with high growth opportunities are likely to retain a greater portion of their earnings to finance their expansion projects as against returning these dividends to shareholders (Badu, 2013). Some firms have fewer growth opportunities but tend to pay higher dividends to prevent managers from over-investing the cash available to the firm. In such circumstances, the dividend policy of the firm plays the role of an incentive for the firm to move its resources and hence decrease its agency costs that may arise from the availability of free cash flow funds (Jensen, 1986). Supporting this theory as can be seen from the figure below, there is negative relationship between the two variables. Clearly the negative relationship between growth of firms and dividend pay-out ratio is predicted on Berihan international bank, lion, zemen, and Buna international bank.

Figure 4 Relationship between dividend pay-out ratio and firm growth

Source: own computation using stata 14.2

4.3.4 The relationship between dividend pay-out ratio and firm size

Information asymmetry between managers and owners/shareholders in large firms are more sensitive than small firms due to lack of close supervision. To control this problem dividend pay-out is widely used as a motivating factor for managers to show shareholders that their organization is in the right track. Except Dashen and cooperative bank of oromia during the study period dividend pay-out ratio and size of firms have direct relationships.
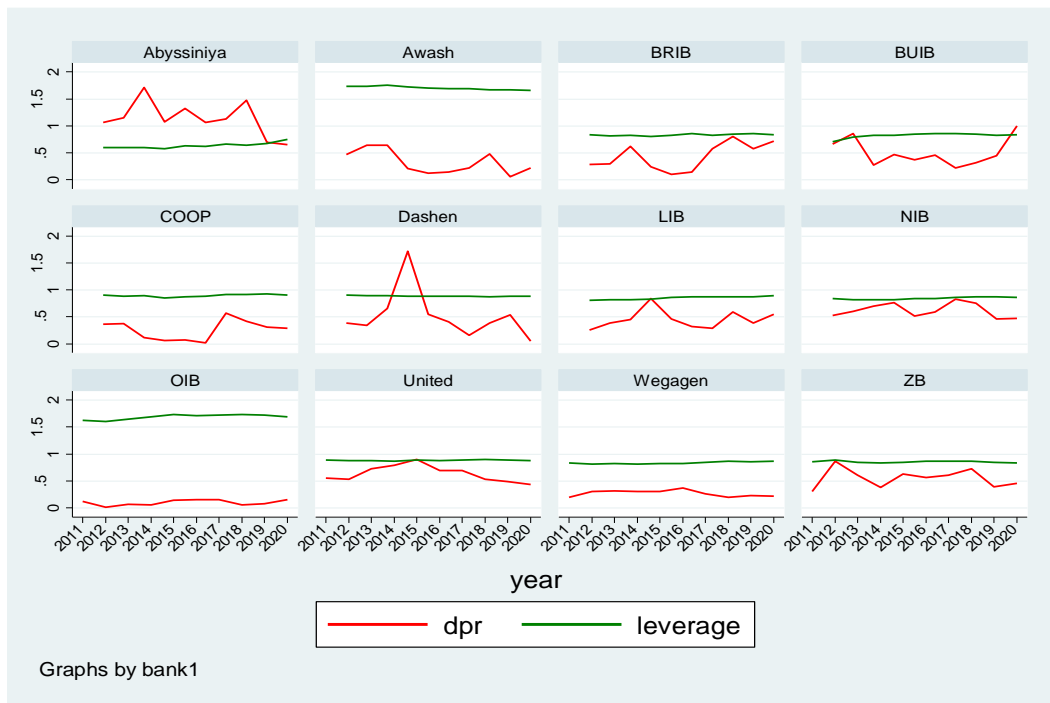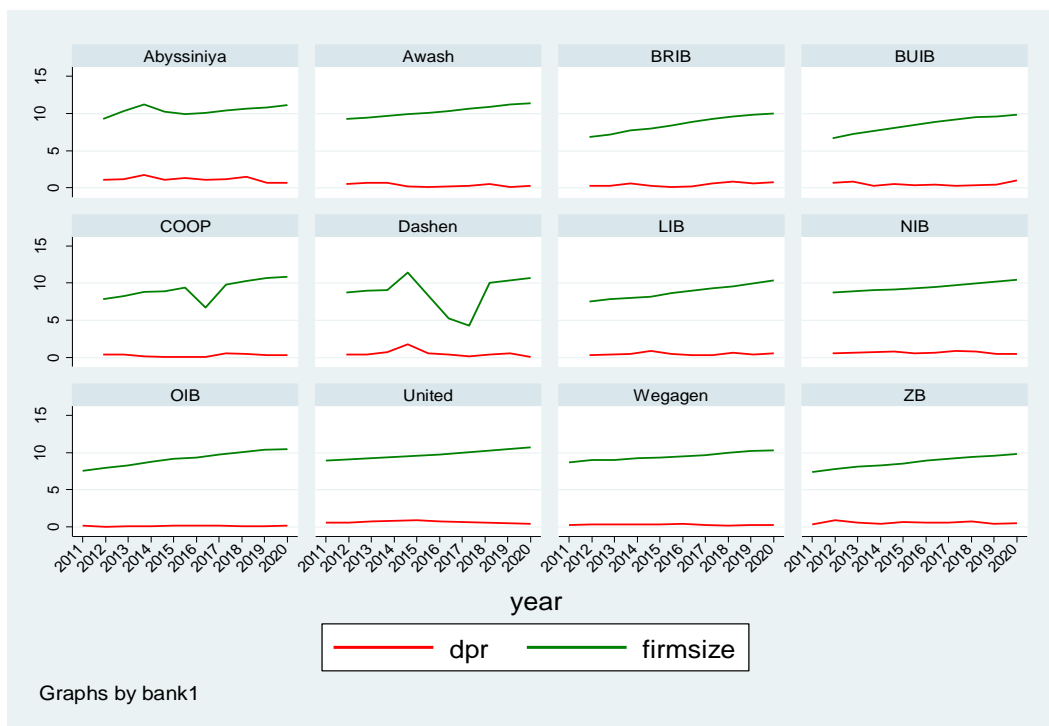
Figure 5 Relationship between dividend pay-out ratio and firm size

Source: own computation using stata 14.2

4.3.5 The relationship between dividend pay-out ratio and inflation

Inflation, the continuous increase in general level of prices or the continuous decrease in purchasing power of money, imposes great costs on the society. It causes the lack of certainty and therefore motivation denial and delay in making decision. Continuing increase in the money supply might be an important factor in causing the continuing increase in the price level that we call inflation. Fisher and Friedman on their quantity theory of money stated that Inflation is always and everywhere a monetary phenomenon.

The figure below confirms the theory of positive relationship between inflation and ratio of money supply to GDP in Ethiopia. The growth rate of the ratio of money supply to GDP reaches minimum in 1993 (1996 E.C). This may be because of political instability and malfunctioning of central bank (national bank of Ethiopia). During inflation, when the price level is increasing rapidly, money loses value rapidly, and people will be more reluctant to hold their wealth in this form. This is especially true during periods of extreme inflation, known as **hyperinflation.**
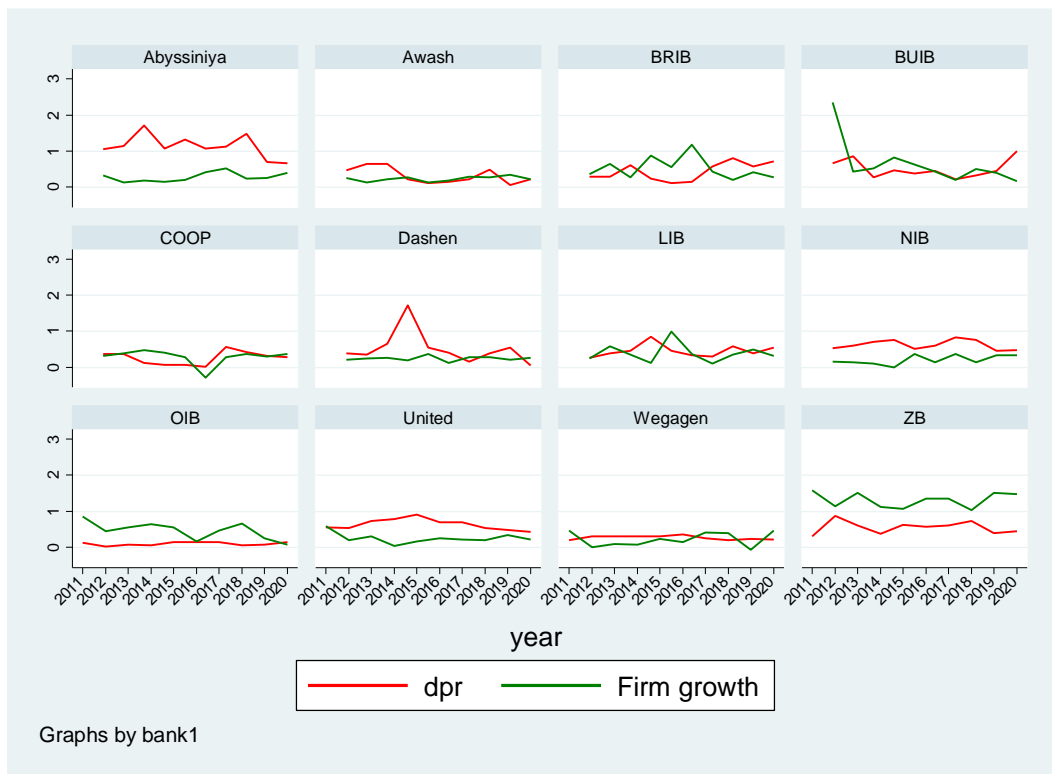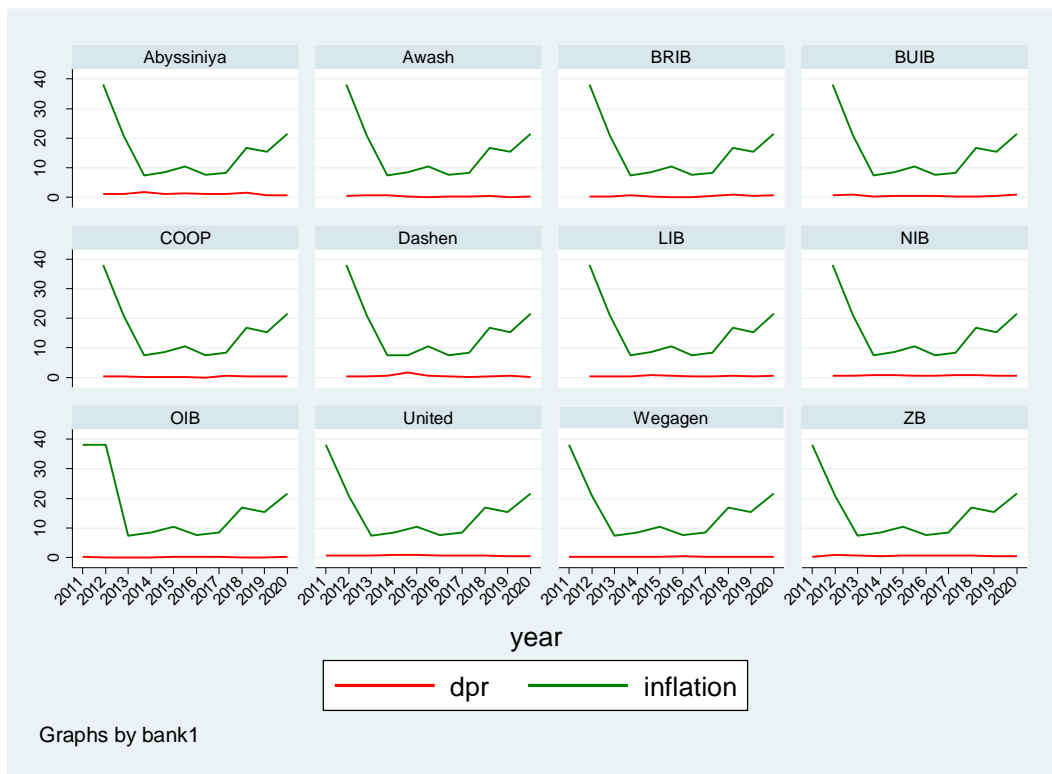
Figure 6 Relationship between dividend pay-out ratio and inflation

Source: own computation using stata 14.2

4.3.6 The relationship between dividend pay-out ratio and GDP growth

While RGDP growth showed its ups and downs during the study period, while the graph of RGDP growth showed a downward sloping, rally. This may imply that there is a positive relationship between RGDP and trade balance. From figure below 4.7 it seems that it is possible to comprehend that the country's RGDP growth is high and stable since the last two decades, the share of output of exportable goods and services and that of import substitute goods and services from the total output is moderately low though it leads to trade balance movement
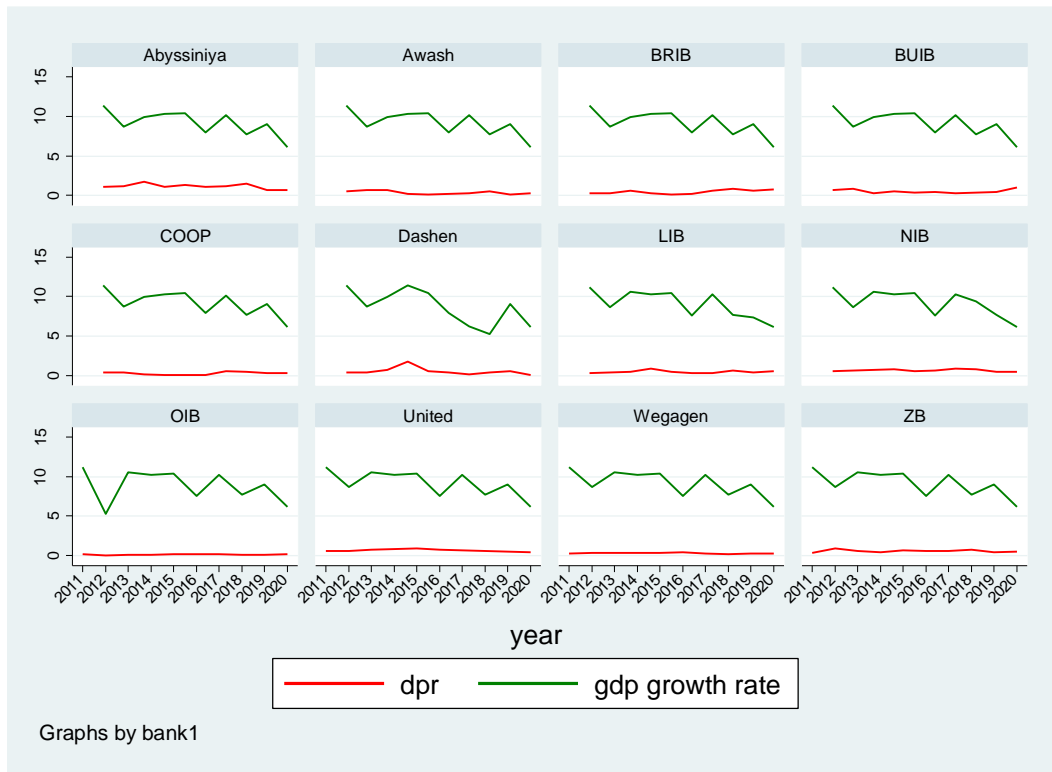
Figure 7 Relationship between dividend pay-out ratio and GDP growth

Source: own computation using stata 14.2

4.4. Econometrics analysis of the study

4.4.1 Model Selection and Test of CLRM assumptions

Holding the CLRM assumptions helps the estimators determined by OLS to have a number of desirable properties that is consistent, unbiased, and efficient. Therefore, tests of CLRM were conducted to ensure whether the data fits the basic assumptions of classical linear regression model or not. The two types of panel estimator approaches that can be used in financial research according to Brook, (2008) are the fixed effects models (FEM) and the random effects model (REM).

4.4.1.1 Specification Test

In this study the researcher used the specification tests in order to choose the suitable econometric model. In this regard, Hausman specification tests enable to determine which of the two models (fixed effects model or random effects model) is best suited in comparison to the data. The Hausman test (1987) can be used to many econometric problems that need specification. In this research case, the tested hypothesis offers guidance for choosing between fixed and random effects. And therefore, it was hypothesized that: HO = Random effect model H1 = Fixed effect model and the Hausman test was

applied and the result is given as follows. Below table 3 result shows that the probability value is greater than 0.05, which confirms that for this data the appropriate model is random effect.

Table 3 Hasuman specification test for random Vs fixed effect

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
profit	.900641	2.539091	-1.63845	1.785249
liquidity	.6464199	.3162257	.3301941	.0854311
leverage	.1951961	-.2654623	.4606584	.7454777
growth	-.1928627	-.0337407	-.159122	.0535083
laggeddivi~d	.2926435	.4303724	-.1377289	.0520716
firmsize	.0530278	.0517908	.001237	.003501
inflation	-.0023913	-.0019151	-.0004762	.
gdprate	.0045345	.0060842	-.0015497	.

```
                        b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

            chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                    =         46.80
            Prob>chi2 =       0.072
            (V_b-V_B is not positive definite)
```

Source: own computation using stata 14.2

4.4.1.2 Normality test

The normality assumption plays a crucial role in the validity of inference procedures, specification tests and forecasting. Non-normal error components in the panel data affect the performance of several tests, like the performance of panel heteroskedasticity tests severely affected. Among all the CLRM assumption the zero- mean value of the error term is the first one to be addressed. Thus, in order to test the normality of the data Shapiro-Wilk W test for normal data is used. According to Shapiro-Wilk W test for normal data, the data is normal if the p value is greater than 0.05 and not if p value is less than 0.05. In test Shapiro-Wilk W test the null hypothesis states that the error term of the model is normally distributed and if the P value is greater than 0.05 then the null hypothesis will be accepted. Based on Shapiro-Wilk W test for normal data and residual plot below the error term is normally distributed since p value is 0.058 which is above 0.05. In this case, we have enough evidence to say error term of the model is normally distributed. Moreover, the plot shows normal distribution of the study.

Table 4 Shapiro-wilk normality test

	Shapiro-Wilk W test for normal data				
Variable	Obs	W	V	z	Prob>z
r	120	0.99402	0.575	-1.239	0.89231

Source: own computation using stata 14.2
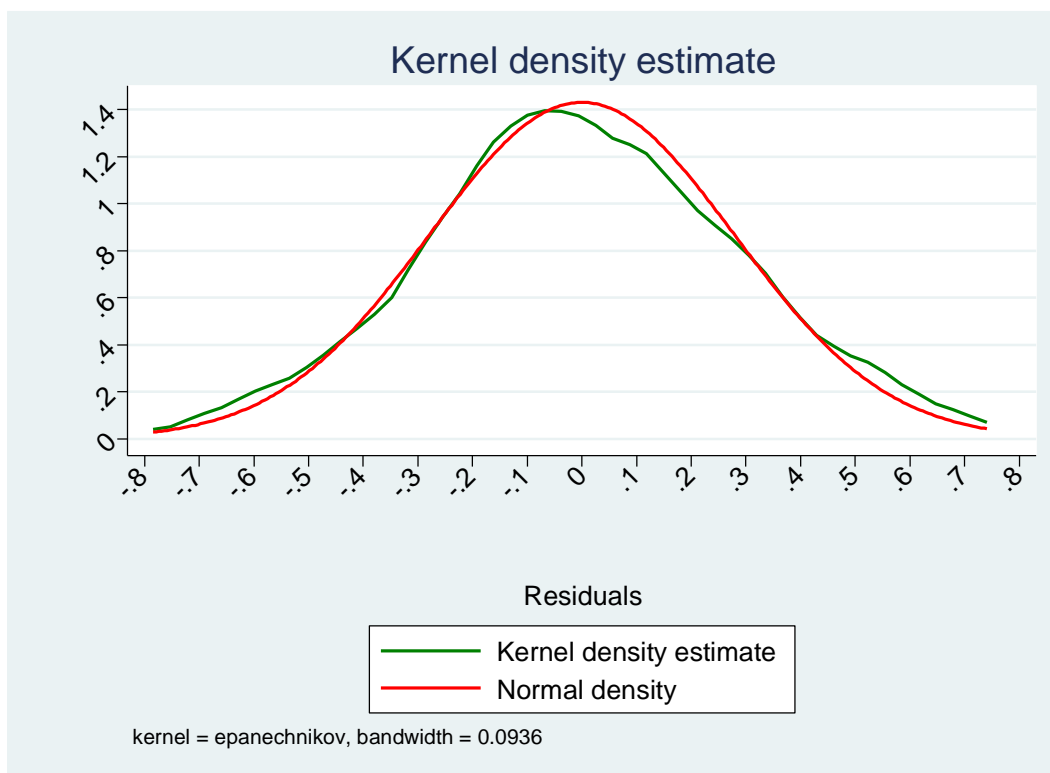
Figure 8 Normal distribution graph

Source: own computation using stata 14.2

4.4.1.3 *Test for Heteroskedasticity*

The heteroskedasticity assumption states that the variance of the error term) across observation is unchanged. If the variance of the error term is not constant, is it side to be heteroskedasticity (Wooldridge, 2004). In the presence of heteroskedasticity error terms in the model, the regression coefficient, results will be consistent estimates but the estimates will not be efficient. The loss of efficiency of the estimates will lead to invalid inference through biased standard error (Gujarati, 2004).

Modified Wald test for heteroskedasticity was used for testing whether the error variances are constant or not. The decision rule behind this test for Heteroskedasticity states that the significant result from the test is indicating the regression of the residuals on the predicted values reveals significant Heteroskedasticity. Even if the problem of Heteroskedasticity does not really matter in panel data approach, we must detect and give appropriate estimate to avoid biased estimation. And hence the problem of Heteroskedasticity was handled by using generalized least squares or using xtgls command in order to get unbiased estimators. After adjusting the heteroskedasticity problem the test presented as follows.

Table 5 Hetroskedasticity test

```
Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

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

chi2 (12)   =      249.23
Prob>chi2 =      0.0000

```

Source: own computation using stata 14.2

4.4.1.4 *Test for Multicollinearity*

In the presence of multicollinearity, the explanatory variables correlated with each other and the regression coefficients possess large standard errors (in relation to the coefficient themselves). Because of the presence of multicollinearity in a given model, the coefficients cannot be estimated with great precision or accuracy (Gujarati, 2004). To check the presence of multicollinearity or not this study used Pearson pairwise correlation. Thus, as can be seen from the result below, since the correlation coefficient is greater than 0.8, there is no multicollinearity problem.

Table 6 Correlation matrix of independent variables

	profit	liquid~y	leverage	growth	lagged~d	firmsize	inflat~n	gdprate
profit	1.0000							
liquidity	0.2874	1.0000						
leverage	0.0736	-0.3588	1.0000					
growth	-0.0773	0.0518	-0.0882	1.0000				
laggeddivi~d	0.1476	0.2871	-0.4013	-0.0094	1.0000			
firmsize	0.0625	-0.0834	0.1447	-0.2840	0.2246	1.0000		
inflation	0.0664	0.2045	0.0187	0.1412	-0.0848	-0.1331	1.0000	
gdprate	0.0975	0.3451	-0.0438	0.1201	0.1092	-0.2819	0.0015	1.0000

Source: own computation using stata 14.2

4.4.1.5 *Test for cross-section dependency*

Cross-sectional dependence arises because of the presence of common shocks and unobserved components that ultimately become part of the error term. If there is a cross-sectional dependency in the model, the standard fixed effect and random effect estimators are consistent but not efficient, the estimated standard errors are biased. Lagrange multiplier (LM) test, developed by Breusch and Pagan (1980) is widely used in cross-sectional dependency test. Therefore, this study used Breusch Pagan cross-sectional dependency test. As per the test below, Breusch Pagan cross-sectional dependency test does not reject the null hypothesis of cross-sectional independence because of the p-value in both testes more than 0.05 i.e. 0.268. Hence, there is enough evidence suggesting the absence of cross-section dependency in the model.

Table 7 Cross sectional dependence test

```
Pesaran's test of cross sectional independence =     -0.606, Pr = 0.5443

Average absolute value of the off-diagonal elements =      0.268
```

Source: own computation using stata 14.2

4.5. Regression analysis

This section discusses in detail the analysis of the results for each explanatory variable and their importance in determining dividend pay-outs in Ethiopian private commercial banks. Furthermore, the discussion analyses the statistical findings of the study in relation to the previous empirical evidences.

Profitability: The regression results in Table 8 below shows that there is statically significant relationship between dividend pay-out decision and profitability of private commercial banks at 10 percent level of significance. This shows that when profitability increases by one unit, dividend pay-out of private commercial banks increases by 2.53 percent other factors remain constant. In other words, profitability influences private commercial banks to pay dividend to their shareholders during the study period. The result is consistent with Birdin- the hand theory, which states that investors prefer current dividend than future capital gain. However, insurance companies should sometimes reinvest their earnings just to become more competent in the global arena rather than paying higher dividend to their shareholders when their earning is higher. The studies which posit that profit determines dividend payout are divergent in their submission with Kaźmierska-Jóźwiak (2015) and Demirgunes (2015) showing negative influence while Moradi et al., (2010) King'wara (2015), Inyiama et al., (2015), and Lama et. al., (2015) founds positive relationships.

Leverage: For Ethiopia bank industry leverag*e* was negative and statically significant relationship between dividend pay-out decision and leverage of private commercial banks. Previous empirical studies such as chehab (1995), Llyold, *et al*. (1985) and D'Souza,1999) founds statistically significant and negative relationship between financial leverage and dividend payout ratio. Dillon (1986) found conflicting evidence for the relationship; in some industries payout and leverage ratios are positively related while in other the relationship is negative.

Liquidity: results show that liquidity tends to have an impact on dividend pay-out ratio. Specifically, when considering dependent variable dividend pay-out ratio, the coefficient on liquidity is positive and statistically significant at 1 percent level, suggesting that companies with stable liquidity position tend to pay more dividends than firms that have liquidity problems, which is supported by the agency cost theory. These results are consistent with Musiega*et al*. (2013) and Anil &Kapoor (2008).

Firm growth: companies with greater growth opportunities could profitably invest the free cash flow in projects that take advantage of these growth opportunities. For Ethiopia bank industry firm growth was not found to be one of the determinants of dividend payments. Dillon (1986) found conflicting evidence for the relationship; in some industries pay out and Firm growth are positively related while in other the relationship is negative. The results can be explained by the fact that Ethiopian banking sectors are generally low geared.

Firm size: the coefficient of firm size is positive and statistically significant at 1 percent level, suggesting that firm size have a positive effect on dividend pay-out ratio. Intuitively, these results imply that, when using dividend pay-out ratio as a measure of dividend policy, larger firms tend to pay higher dividends. Moreover, when size increased the company may have better access to external capital and hence this will enable the company to pay high dividend. These results support the hypothesis and are consistent with the findings of Al-Malkawi (2008), Mollah (2011), Hamill & Al-Shattarat (2012) and Patra, et al., (2012).

Firms' previous year dividend payment was also found to be statistically determinant variable of dividend pay-out ratio of Ethiopian banking sector. The predication statement was last yeas' dividend amount is significant explanatory factors of dividend pay-outs. The results show that the coefficient of lagged dividend payments is positive. Last year's dividend has positive relation with the dividend pay-out because mostly companies are not willing to cut their dividends from the previous level rather the management perform every task to meet or increase the pay-out ratio from its previous level. These results are similar to numerous studies on emerging markets Al-Ajmi and Abo Hussain, (2007) and Ahmed and Javid, (2009) that report lagged dividend payments are an important determinant of dividend payments.

Economic growth: Table 8 shows economic growth of the country measured by GDP it has a negative and statistically insignificant relationship with dividend pay-out at 5% significance level. The result shows the effect of GDP on dividend pays-out with a coefficient of 0.005and a p- value of 0.733 at 5% significance level. This implies that for one unit change in GDP, keeping the other things constant will result 0.005-unit changes on dividend pay-out in same direction. Therefore, hypothesis 7 is rejected, stating that GDP has positive significant impact on dividend policy of Ethiopian private banks. The finding is in line with Ghafoor et al. (2014) but contradicts with Basse and Reddeman (2011). Finally, Inflation has no significant effect on dividend pay-out policy. Thus the the eighth hypothesis were rejected.

Table 8 Random effect regression result

```
Random-effects GLS regression              Number of obs     =        120
Group variable: bank1                      Number of groups  =         12

R-sq:                                      Obs per group:
     within  = 0.2377                                   min =         10
     between = 0.8506                                   avg =       10.0
     overall = 0.5855                                   max =         10

                                           Wald chi2(8)      =     137.94
corr(u_i, X)    = 0 (assumed)              Prob > chi2       =     0.0000
```

dpr	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
profit	2.539091	1.305845	1.94	0.052	-.0203173	5.098499
liquidity	.3162257	.1350873	2.34	0.019	.0514594	.580992
leverage	-.2654623	.080124	-3.31	0.001	-.4225024	-.1084222
growth	-.0337407	.0568615	-0.59	0.553	-.1451873	.0777059
laggeddividend	.4303724	.0737363	5.84	0.000	.285852	.5748929
firmsize	.0517908	.0194851	2.66	0.008	.0136006	.089981
inflation	-.0019151	.0022436	-0.85	0.393	-.0063125	.0024824
gdprate	.0060842	.0138568	0.44	0.661	-.0210746	.0332429
_cons	-.1640543	.2455002	-0.67	0.504	-.6452259	.3171172
sigma_u	.02981019					
sigma_e	.19697537					
rho	.02239086	(fraction of variance due to u_i)				

40

CHAPTER 5 CONCLUSION AND RECOMMENDATION

The basic intent of this chapter is to present the overall overviews of the research by summing the main findings of the analysis part and give future research directions. Accordingly, the chapter starts with its discussion by briefly sum up the overviews of the study and its main findings. In section two based on the study finding the researcher highlight some recommendations for the target populations the study pivoting on and at last highlight further research directions.

5.1. Summary of major findings

The mean value of dividend pay-out ratio is 43.50% with minimum and maximum of 0 and 71.43% respectively. Its standard deviation is 33.28% which shows deviation from it mean value. The mean value of profitability is 32.5% with standard deviation of 16.73 %. According to Parvesh and Sanjeev (2016) Banks can maintain an adequate liquidity position by either increasing current liability or quickly converting their assets in to cash. The ratio of cash and cash equivalents to total deposits was used as a measure for liquidity. The mean value of liquidity being 36.02% displayed that the banking sector was moderately liquid during the study period. Concerning to leverage, the average of debt ratio of the sampled firms is 80.33 percent. It discloses that debt represents nearly 80.33 percent of the capital of private banks. The highest debt ratio for a company in a particular year 0.9213 and the minimum ratio for a company in a year is 57.65%. To choose the appropriate model the Hausman test was applied and the result shows that the probability value is greater than 0.05, which confirms that for this data the appropriate model is random effect model. This study used Breusch Pagan cross-sectional dependency test. As per the test below, Breusch Pagan cross-sectional dependency test does not reject the null hypothesis of cross-sectional independence because of the p-value in both testes more than 0.05 i.e. 0.268. Hence, there is enough evidence suggesting the absence of cross-section dependency in the model. in addition to these tests other CLRA were tested and confirmed that the assumptions are not violated.

The regression result revealed that there is statically significant relationship between dividend pay-out decision and profitability of private commercial banks at 10 percent level of significance. when considering dependent variable dividend pay-out ratio, the coefficient on liquidity is positive and statistically significant at 1 percent level. Firm size is positive and statistically significant at 1 percent level, suggesting that firm size have a positive effect on dividend pay-out ratio.

5.2. Conclusion

Dividend policy is one of the major decisions in corporate finance that serves as the set of guidelines a company uses to decide how much of its earnings it will pay out to shareholders, in which way profit is distributed among shareholders and what portion of profits should be retained in a company for business growth. To do so the main objective of this study is examining the main determinants of dividend pay-out ratio in private commercial banks of Ethiopia. To address test hypotheses and achieve the broad research objective, the study applies explanatory research method by using purposive sampling and quantitative research approach. Specifically 12 private commercial banks covering 10 years from 2011 to 2020 study samples were taken. In the study firm's size, growth, leverage, liquidity, profitability, previous year dividend, GDP and inflation were considered as independent variables while dividend pay-out policy was considered as dependent variables. In order to analyses data, descriptive statistics, correlation analysis and regression analysis were used. In order to choose the appropriate model for the data used in this study hausman specification test was used. The test statistics shows that random effect model is appropriate for this study.

In addition to this other classical linear regression assumptions like normality, heteroskedasticity, multicollinearity, test for cross sectional dependence were tested. All of the test statistics shows that the assumptions are not violated. Regression results show that Profitability, liquidity, leverage, lagged dividend pay-out ratio, and firm size have positive significant effect on dividend pay-out policy of Ethiopian private commercial banks. On the other hand. Finally other independent variables used in the study have no significant effect on dividend pay-out policy of Ethiopian private commercial banks.

5.3. Recommendation

➢ The findings indicate profitability has a positive significant impact on dividend payout for private commercial banks in Ethiopia. This implies that individual investor who prefers current high dividend should invest on profitable company, while management should announce the dividend after considering their profit.

➢ Moreover, on the basis of the empirical findings of this study firm size has a positive influence on dividend pay-out, therefore investor should invest on larger company to earn higher dividend.

➢ Firms should efficiently increase profitability in order to maintain dividend payment to their shareholders. Also, it is required to sustain dividend payment.

➢ To make an informed decision on investment options, Investors who are trying to predict future dividends on their investment and/or selecting the dividend paying firms might need to look the company's performance in the following factors; profitability, liquidity, growth opportunity, and previous year dividend asset making an investment decision. For the reason that, these factors have significant impact on dividend pay-out in Ethiopian private bank sector.

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Appendices

S/N	Name	Established Date	Ownership
1	NIB INTERNATIONAL BANK	1999	Private
2	ABAY BANK S.C	2010	>>
3	ADDIS INTERNATIONAL BANK	2011	>>
4	AWASH INTERNATIONAL BANK	1994	>>
5	BANK OF ABYSSINIA	1996	>>
6	BERHAN INTERNATIONAL BANK	2010	>>
7	BUNNA INTERNATIONAL BANK	2009	>>
8	COMMERCIAL BANK OF ETHIOPIA	1963	GEVERNMENT
9	COOPERATIVE BANK OF ORMIA	2005	>>
10	DASHEN BANK	1995	>>
11	DEBUB GLOBAL BANK	2012	>>
12	ENAT BANK	2013	>>
13	LION INTERNATIONAL	2006	>>
14	OROMIA INTERNATIONAL BANK	2008	>>
15	UNITED BANK	1998	>>
16	WEGAGEN BANK	1997	>>
17	ZEMEN BANK	2009	>>
18	DEVELOPMENT BANK OF ETHIOPIIA		GOVERMENTAL

```
Random-effects GLS regression                Number of obs     =        120
Group variable: bank1                         Number of groups  =         12

R-sq:                                         Obs per group:
     within  = 0.2377                                    min =         10
     between = 0.8506                                    avg =       10.0
     overall = 0.5855                                    max =         10

                                              Wald chi2(8)      =     137.94
corr(u_i, X)    = 0 (assumed)                 Prob > chi2       =     0.0000
```

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_cons	-.1640543	.2455002	-0.67	0.504	-.6452259	.3171172

sigma_u	.02981019	
sigma_e	.19697537	
rho	.02239086	(fraction of variance due to u_i)

```
. corr profit liquidity leverage growth laggeddividend firmsize inflation gdprate
(obs=120)
```

	profit	liquid~y	leverage	growth	lagged~d	firmsize	inflat~n	gdprate
profit	1.0000							
liquidity	0.2874	1.0000						
leverage	0.0736	-0.3588	1.0000					
growth	-0.0773	0.0518	-0.0882	1.0000				
laggeddivi~d	0.1476	0.2871	-0.4013	-0.0094	1.0000			
firmsize	0.0625	-0.0834	0.1447	-0.2840	0.2246	1.0000		
inflation	0.0664	0.2045	0.0187	0.1412	-0.0848	-0.1331	1.0000	
gdprate	0.0975	0.3451	-0.0438	0.1201	0.1092	-0.2819	0.0015	1.0000

Pesaran's test of cross sectional independence =   -0.606, Pr = 0.5443

Average absolute value of the off-diagonal elements =   0.268