ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDENTS
MBA PROGRAM

"DIVIDEND POLICY AND SHARE PRICE"
(THE CASE OF PRIVATE BANKS IN ETHIOPIA)

BY

NIKODIMOS TESFAYE

DECEMBER 2021

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ID. SGS/0306/2012A

A THESIS SUBMITED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA) IN ACCOUNTING AND FINANCE

ADVISOR

Mohammed Seid (Assi. Prof.)

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APPROVED BY BOARD OF EXAMINERS

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Internal Examiner	Signature

DECLARATION

I Nikodimos Tesfaye declare that this research, titled "Dividend Policy and Share Prices" – the case of private banks in Ethiopia, is done with my own effort. I have produced it independently except for the guidance and suggestions of my research supervisor. I assure this study has not been submitted for any scholarly award in this or any other university.

Nikodimos Tesfaye
MBA-AF student
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Acronyms

ADR – Automatic Dividend Reinvestment

BOA – Bank of Abyssinia

COOP – Cooperative Bank of Oromia

CP – Clearing prices as registered by the bank. These clearing prices are taken as market prices for the shares.

CP/P – Clearing share prices expressed in terms of the par value.

DGB – Debub Global Bank

DIV – Dividends

DPS – Dividends per share for each year

DPS/P – Dividends per share as a percentage of the par value.

DRIP – Dividend Reinvestment Plans

EPS – Earnings per share

EPS/P – Earning per share stated in terms of the par value.

G. C. – Gregorian calendar

NBE – National Bank of Ethiopia

NPV – Net Present Value

P – Share Price

PV – Present Value

TDS – Total dividends paid.

WANS – weighted average number of shares outstanding each year

Abstract

This paper aimed at investigating the relationship between dividend and share price. By observing sixteen private banks in Ethiopia, an attempt was made to find a connection between dividends and stock prices. The data was collected for six-year period (2015-2020 G.C.) and used descriptive statistics, correlation and regression technique to examine the hypothetical relationship between dividends and share prices. Interview wis bank share office officials was also made to get additional information. The results show there is a strong association between the crude measures of dividends and share prices. Earnings per Share are also strongly correlated with share prices. The Pearson's moment correlation coefficients are statistically significant at 99% confidence level. However, evidence did not support the association between the real measures of dividends and share prices. Also, the actual share prices are a bit higher than model determined share prices for all the sixteen banks. With much decision regarding the dividends and share premiums left to the general meetings of shareholders', it is nearly clear dividends determines the share prices of Ethiopian private banks.

Keywords: dividend per share, earning per share, share price, clearing price, par value.

Contents

CHAPTER ONE

BACKGROUND OF THE STUDY

1.1. Introduction

The profits earned by the company can be reinvested or distributed as dividends among shareholders. All investors expect investment returns in the form of capital gains or dividends. Dividends are the portion of a company's profit after tax that are distributed to shareholders according to the number and type of stock they hold. Dividends are money that a company pays in cash to shareholders from dividends or by issuing additional shares in the form of dividends. Dividends can also be referred to as the distributable income of a company. Retained earnings are retained earnings. The company's board of directors decides to pay dividends. The determination of dividend payments and retained earnings constitutes the dividend policy. Dividend payout is one of the most debatable issues in modern corporate finance and still a puzzle (Dakito 2015). The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together (Gustav & Gairatjon 2012).

Society lives in an integrated, scattered or organized activity to fulfill its basic social needs. Money in its various developed forms (paper money and various Digital and non-digital forms etc.) is used as an intermediary media of exchange of value for different stake holders. In societies organized and scattered effort economic activities seek funding, namely currency or money which is a media of exchange (transfer of value) a scarce resource which if not regulated and well managed leads in to manipulations and disastrous economic instability at micro level and macro level at large both at National, Intercontinental and International level.

Bank is one of the contemporary financial businesses that manage various funding activities that is established in the form of Share Company, keeps money in terms of saving and manages lending and borrowing activities. Let be Islamic Banking that is not based on an interest earning and paying and other modern banks that earn interest on their lending and pay an interest on savings on agreed terms; both earn commissions for their services which in turn have to pay to their shareholder's earnings per share in the form of dividend on their annual profit after Tax. When Banks as a Share Company do their business well; reward their shareholders for their investment, by declaring dividend proposed by its Board of Directors and approved by the Annual General assembly of Shareholders.

Dividends also offer a good way for companies to communicate their financial stability and profitability to the corporate sphere in general. Stocks that issue dividends tend to be fairly popular among investors, so many companies pride themselves on issuing consistent and increasing dividends year after year. In addition to rewarding existing shareholders, the issuing of dividends encourages new investors to purchase stock in a company that is thriving. Dividends are generally paid in cash or additional shares of stock, or a combination of both. Dividends are often part of a company's strategy. However, they are under no obligation to repay shareholders using dividends James Chen and Gordon Scott, (2020). The dividend policy decision involves the choice between distributing the profits belonging to the shareholders and their retention by the firm.

Researchers have provided considerable attention and thought towards solving the dividend puzzle resulting in number of conflicting hypothesis theories and explanations (Alkuwari 2009). It is an important management decision to determine which portion of the dividend should be paid as dividends to investors (shareholders) and which portion should be reserved for future reinvestment.

There may be no cash dividends because some shareholders prefer cash dividends, others prefer dividend stability, while others prefer reinvestment of dividend capital. Therefore, according to the preferences of different shareholders, companies should create a dividend policy that meets the needs of shareholders. Financial managers typically have to make many important decisions, such as investment portfolios, product development, and financing, to increase the market value of a company (Afza & Mirza 2011). Managers must carefully decide how much profit to distribute to shareholders and how much to reinvest in the business. When making such decisions, it is important to focus on maximizing shareholder wealth. The dividend is not just a source of income for shareholders, but act as an indicator to judge the performance of the firm (Al-Malkawi et al., 2010). Dividend payout indicates the level of earnings paid to shareholders on their investment. It is a critical decision because it relates with other financial and investment decision (Abor & Bokpin 2010).

A major decision area of financial management is the dividend policy decision in the sense that the firm has to choose between distributing the profits to the shareholders and plugging them back into the business.

The economic strength of a nation depends on the health of its banking sector. Research in this area is important for banks and also for the economy of the country. The study of this paper concerns on dividend payout in Ethiopian private commercial banks. Empirical evidences indicate that the dividend payout policy for banks is quite important in that it signals the quality of a bank in an environment that is best characterized by significant information asymmetry (Slovin et al. 1999).

The study focuses on sixteen private commercial banks in Ethiopia which were in practice starting from 2015 G.C.

1.2. Statement of Problem

There is an imperative gap in modern finance theory on the issue of corporate dividend policy. The theory should be able to explain why dividends signal both “good” and “bad” news. An intelligent appraisal of this and other considerations involved in the payout and retention decision presents management with a problem that is inherently one of the most difficult it has to face.

Several theories have been proposed to explain the relationship between dividend policy and company value. The most popular dividend payment theories are: Dividend irrelevance theory, Bird in hand theory, Clientele effect theory, Tax preference theory, Signaling theory and Agency theory. The residual policy proposed by the hierarchical financing model by Myers (1984) shows that companies can use available profits to invest and that all inventory can be paid out as dividends. According to Linter (1956), a sustainable and predictable policy describes companies that have set dividends based on their profitability, which is adjusted as profitability increases. Kristianti (2013) also cited the company's value as its share price, which was significant on a major trading day in the major trading market. Company value is an important consideration in management decisions as to why companies are there to create wealth for their owners, and therefore all management decisions should focus on creating value for the owners. In a given company, dividends are the returns shareholders receive on investments, dividend payments, dividends, or cash. Dividend policies are decisions made by managers about the number of dividends payable, the type of dividends payable to investors, and the amount remaining to be reinvested. According to Hashemijoo, Ardakani, Younesi (2010), the stability of dividend policy can affect the stability of investor wealth, and dividend policy is one of the tools managers can use to influence shareholders' wealth.

As Brealey and Myers (2003) noted, "Dividend policy remains one of the top ten issues of uncertainty in the financial sector," suggested Allen and Michealy (2003) to conduct empirical studies before reaching an agreement on dividend policy. A three-year letter from Naceur, Goaied and Belanes (2006) showed that with-profits policy is one of the most controversial issues in the financial world.

Previous studies conducted on dividend payout do not agree that whether payouts signal positive or negative conditions about a corporation. (Kao & Wu (1994), Watts (1973), and Bulan et.al. (2007)). Also, prior empirical evidence regarding the impact of dividend taxes on firm valuation is mixed (Gentry et.al. 2003). The question arises as to whether the evidence among the group of Ethiopian private banks studied supports this reasoning.

With the fact that the banking sector is flourishing, it is imperative to study the issue in the Ethiopian context.

1.3. Hypothesis

It is the aim of the study to see if there is any association between DPS and EPS with share prices. Hence, the alternate and null hypotheses are stated as follows.

Null hypotheses

$H0_1$: There is no significant relationship between DPS and share price

$H0_2$: There is no significant relationship between EPS and share price

Alternative hypotheses

HA_1: There is significant relationship between DPS and share price

HA_2: There is significant relationship between EPS and share price

1.4. Objective of the Study

1.4.1. General objective

The general objective of the research is to assess what are the determinants of share price in private commercial banks in Ethiopia.

1.4.2. Specific objective

The specific objectives of the study are:

- To see if there is any relation between dividends and share prices, and
- To evaluate how far the actual clearing share prices are set from the ideal model determined prices at private banks of Ethiopia.

This study differs from other studies because it only focuses on the recent six years' dividend of Abay bank, Addis international bank, Awash bank, Bank of Abyssinia, Brehan bank, Bunna international bank, Cooperative bank of Oromia, Dashen bank, Debub global bank, Enat bank, Hibret bank, Lion international bank, Nib international bank, Oromia international bank, Wegagen bank and Zemen bank.

1.5. Significance of the study

The researcher believes the result of this study will encourage the concerned researchers to understand the practice of private banks in the country regarding to the factors in to account in order to make rational decisions with respect to dividend issues. It may also enable managements of the selected private banks to improve their decisions on their dividend practices. It is also the researchers believe that it would enable potential investors to evaluate the dividend policies of these originations before they decide to invest. The other significance of these study is it may give way to other researchers that want to make further investigation in the area and to conduct detailed researches on the problem.

1.6. Scope of the Study

This investigation is limited to an analysis of the dividend policy of the sixteen banks for the period (2015-2020). In the approach to this trend, the age of banks starting in 2015, dividend payments in 2020 and should be sufficient to provide relevant information on home valuation criteria for assessing dividend policy. The researcher selected all private banks which are operating starting from 2015 G.C. The banks selected for my study are: Abay bank, Addis international bank, Awash bank, Bank of Abyssinia, Brehan bank, Bunna international bank, Cooperative bank of Oromia,

Dashen bank, Debub global bank, Enat bank, Hibret bank, Lion international bank, Nib international bank, Oromia international bank, Wegagen bank and Zemen bank.

1.7. Limitation of the study

The quality of the output of this study will be depending the genuine data acquired from the selected representative banks. This implies that, the finding and the analysis of this paper will depend up on banks reliable data. In addition, shortage of pervious similar researches in Ethiopian case may affect the qualities of the study output.

1.8. Organization of the study

The research paper is organized in five chapters. Chapter one is the introduction part that addresses; statement of the problem, significant of the study, objective of the study. Chapter two will deal with related literature including theoretical as well as empirical aspect of dividends are presented. Methodology is presented under chapter three with. Chapter four presents the data analysis including findings, and discussion. The last chapter of the paper is about summery, conclusions and future research suggestions.

CHAPTER TWO

LITERATURE REVIEW

2.1. Overview on Private Banking in Ethiopia

Though the issue of Banking is a wide global concept; the research's concern is to study portion of private Banks in Ethiopia. We have about two Government Banks namely, Commercial bank of Ethiopia and Development bank of Ethiopia and about Twenty existing and emerging private Banks. According to the National Bank of Ethiopia (NBE) requirement a minimum of Birr 500Million paid up Capital is needed to establish a private Bank in Ethiopia. In addition to the Established banks Small Micro Cooperative Banks are playing a vital role in supporting Small and growing economic holdings. As per data copied from the Ethiopian Prime Ministers Report in the 5th peoples representative's 6th year meeting the total paid up Capital in Banks is Birr 144 billion, have 66.2 million Customers with saving accounts representing 92% of Banks Funds for loan financing; have 6.1 million Mobile Banking Customers including remote areas with inaccessible banking facilities whereas the total branches covered by all of the banks all over the country is 7,100 branches. The lion Share in the Banks Capital represents the holding of Government Banks where as private banks paid up capital has been listed below in their paid-up Capital Order as per 2019 the banks Financial Report obtainable from NBE:

Table 1 Paid up capital of banks in Ethiopia

Serial No	**Name of the Bank**	**Paid Up capital in Billon Birr**	**Remark**
1	Amahara bank S.C	6	Emerging bank with 8 billion Registered Capital
2	Awash International Bank S.C	4.38	Functioning
3	Bank of Abyssinia S.C	2.81	Functioning
4	Dashen Bank S.C	2.71	Functioning
5	Wegagen Bank S.C	2.54	Functioning
6	Oromia International Bank S.C	2.4	Functioning
7	Hibret Bank S.C	2.26	Functioning

8	Nib International Bank S.C	2.1	Functioning
9	Oromia Cooperative Bank S.C	2.05	Functioning
10	Breahn International Bank S.C	2.0	Functioning
11	Bunna International Bank S.C	1.77	Functioning
12	Abay Bank	1.6	Functioning
13	Anbessa Bank S.C	1.6	Functioning
14	Zemen Bank S.C	1.40	Functioning
15	Enat Bank Share Company	1.19	Functioning
16	Addis International Bank S.C	0.83	Functioning
17	Debub Global bank	0.72	Functioning
18	Goh Bank S.C	--	Emerging
19	Gedda Bank S.C	--	Emerging
20	Kush Bank S.C	--	Emerging
21	ZamZam Bank S.C	--	Emerging
22	Hijira Bank S.C	--	Emerging
23	Siinqe Bank S.C	--	Emerging
24	Shabelle Bank S.C	--	Emerging
25	Hosana Bank S.C	--	Emerging
26	Ahadu Bank S.C	--	Emerging
27	Damota Bank S.C	--	Emerging
28	Akufada Bank S.C	--	Emerging
29	Selam Bank S.C	--	Emerging

Source: National Bank of Ethiopia

The studies focus only on sixteen private banks flash earnings paid from earnings paid over the past six years and follow their success factor. In addition to showing how companies that investigate creating an environment in which they can develop advertising dividends to obtain regulations; I think the result of this study:

In order to stimulate the researchers involved and understand the practice of private banking in the country due to factors for logical decisions on dividends. This will allow selected private banks to improve their business decisions. These potential investors invest the dividends of these

organizations before making a decision. Make sure readers are aware of the banks' profit policy and allow them to see similarities and dividends between the sixteen banks, Ethiopia and other countries to develop some generalizations. Other investigators who want to investigate the area and conduct detailed investigations into the problem.

2.2. Definition of dividend

The term dividend generally refers to the money paid out of profits. If a payment is made from sources other than current or accumulated earnings, the term "distributions" is used.
In the words of Ozuomba et al (2012), dividends can be defined as the distribution of profits, past or present, in real assets among the shareholders of a joint venture they own. The dividend can be viewed as an inactive or managed carry-over. In a managed dividend policy, managers tend to smooth out dividends by fixing dividend payments at a certain level of earnings and investments, while otherwise dividends are paid only after imaginable portfolios of speculation have been made. In this case, the dividend will tend to be very variable and often nil.

As stated by O'Sullivan, the Arthur (2003) dividend is distributed among the profits of a company to its shareholders. When a company receives a profit, it can pay part of the profit as a dividend to the shareholders. Any undistributed amount is reinvested in the asset called retained earnings. Retained earnings from previous years, as well as earnings from the current year, can be obtained for distribution; most of the time a firm is prohibited from paying a dividend with its capital. Circulation to shareholders can be in cash (usually a deposit in a bank account) or, if the company has a dividend reinvestment plan, the amount can be paid by issuing more shares or by repurchasing shares. In some cases, the distribution may be activity.
Dividends come in numerous different forms. As stated by Ross et. al. (2008), the fundamental types of cash dividends are: regular cash dividends, extra dividends, special dividends, and liquidating dividends.

According to Brealey and Myers (2005), dividends are one of the ten most important unsolved problems in the field of corporate finance. Allan et. al (2000) argued that dividends remain one of the thorniest conundrums in corporate finance. Allen and Michaely (2003) find in their empirical

work that much more empirical and theoretical research into the dynamics and determinants of dividend policy is needed before an agreement can be reached.

According to Lease et al. (2000), the two main categories of decisions made by corporate finance managers are investment decisions and financing decisions. Determine investment decisions and the size and composition of the asset or the left side of the company's balance sheet. Financing decisions determine the debt and equity structure or the right side of the company's balance sheet. Brealey and Myers (2005) list dividends as one of the top ten important unresolved issues in the field of advanced corporate finance. Allan et.al (2000) wrote that Dividends remain one of the thorniest puzzles in corporate finance. Allen and Michaely (2003) conclude in their empirical work that much more empirical and theoretical researches on dynamics and determinants of dividend policy are required before consensus can be reached.
In this chapter the theoretical and empirical works of scholars in the area of dividend payouts and valuation of common stock is presented. The first part introduces dividends and dividend policy. In this section the question whether dividend payouts matter for corporations will be answered. In trying to put the dividend controversy in perspective, three viewpoints are reviewed; the dividend irrelevance, reasons for low payout (taxes, flotation costs and dividend restrictions) and justification for high payout (taxes, rational preference for current income and uncertainty about the future). The information content of dividends and the clientele effect are also discussed. The end of this part will be a discussion on the approaches for the determination of dividend payouts. Empirical findings of researchers are presented latter to enable shape the discussion.

The second part is a review of the relevant techniques in pricing common stocks. This section presents the mechanics to determine the price of a stock by incorporating dividends and show how the price might be affected by dividend changes.

2.3. Dividend policy

The concern of this research is cash dividends. In general, government corporations around the world regularly pay cash dividends four times a year but once a year in Ethiopia (annual reports from private banks). As the name suggests, these are cash payments that are paid directly to the shareholders and reimbursed in the ordinary course of business.

Dividends are a significant cost factor for many companies. According to Allen et al. (2000), dividends still make up a large percentage of profits. With that in mind, the main question in the dividend debate is whether the company should pay out the money to its shareholders or whether the company should take the money and invest in its shareholders.

Brigham (2010) posed this important question with three slices. Profitable companies are constantly faced with three central questions:

- How much free cash flow should it transfer to the shareholders?
- Should it provide this cash to be made available to shareholders by increasing profits or buying back shares?
- Should it maintain a consistent payment policy or should it allow payments to change as circumstances change?

Baker and Wergler (2004) placed the profit close to the value of the participation, but at different times in different directions.

When deciding how much liquidity to pay shareholders, finance managers should consider that the company's goal is to maximize shareholder value. Therefore, the Target Payout Ratio - defined as the percentage of net income to be paid out as cash dividends - should be based primarily on investors' preferences for dividends over capital dividends.

Companies that set up / increase their profit attract new customers. Companies that eliminate or reduce their profits lose customers and acquire new customers (Allen et al., 2000). Do investors prefer:

- To have the firm distribute income as cash dividends or
- To have it either for repurchase of stock (which are not considered in this study) or else plow the earnings back into the business, both of which should result in capital gains?

Keep in mind that the return on investment is just an increase in the share price. The above preference can be seen in terms of the fixed growth stock valuation model, which shows the growth component of the trade between higher payments and reinvestment.

2.4. Forms of Dividend Payments

Dividends are generally paid out either on other capital, such as overpaid capital or accrued dividends. The common practice for any shareholder who receives dividends is for the company to operate successfully and receive a share of the dividend. As stated by Kieso et al (2004) forms of dividend payments are:

1. Cash dividends
2. Property dividends
3. Liquidating dividends and
4. Stock dividends.

2.4.1. Cash dividends

According to Caroline Banton (2020), cash dividends are the distribution of cash or cash paid to shareholders, generally as part of the company's accumulated dividends or current income. Cash dividends are paid out in cash, as opposed to dividends or other stocks.

Companies commonly pay dividends in cash. When cash dividends are declared a company should have enough cash in its bank account. If it does not have enough bank balance arrangement should be made borrow funds. When the company follows a unchanging dividend policy, it should prepare a financial plan for the coming period to indicate the required funds, which would be needed to meet the regular dividend payments of the company. As Pandey (2004) stated, it is relatively difficult to make cash planning in expectation of dividend needs when an insecure policy is followed.

2.4.2. Property dividends

According to Keiso et al, (2004) dividends payable in assets of the corporation other than cash are called property dividend or dividend in kind. Property dividends may be merchandise, real estate, or investments, or whatever from the board of director entitles. Because of the recognizable problems of delivery to stockholders and divisibility of units, the traditional property dividend is in the form of securities of other companies that the distributing corporation holds as an investment.

2.4.3. Liquidating dividends

Some corporations use paid-up capital as a foundation for dividends. Without proper discloser of this fact, stockholders may mistakenly believe the corporation has been functioning at a profit. An additional result could be consequent sale of extra shares at a higher price than is warranted. This type of trick, intentional or unintentional can be avoided by requiring that a clear statement of the source of every dividend go along with the dividend check (Ibid). Dividends based on other than retained earnings are sometimes described as liquidating dividends, thus suggesting that they are a return of the stockholder's investment other than of profits. In other words, any dividend not based on earnings is a bargain of corporate paid-in capital and that extent; it is a liquidating dividend (Ibid).

2.4.4. Stock dividends

According to James Chen and Gorden Scott (2021) a stock dividend is a dividend payment to shareholders that is made in shares rather than as cash. The stock dividend has the advantage of paying shareholders without reducing the company's cash balance, although it can dilute earnings per share.

As stated by Keiso et al (2004) if the management desires to "capitalize" part of the earnings (i.e. reclassify amount earned to subsidized capital), and thus retain earnings in the business on an enduring basis, it may issue a

stock dividend, in this case, no assets are distributed, and each stockholder has exactly the same proportionate interest in the corporation and the same total book value after the stock dividend was issued as before it was stated. The book value per share is lower because bigger numbers of shares are held.

2.5. Dividend theories

Ross et.al. (2008) put the dividend policy issue in the following way; "… Much research and economic judgment propose that dividend policy does not matter. In fact, the dividend policy topic is considerable like the capital structure question. The important elements are not difficult to identify, but the connections between those elements are multifaceted and no easy answer exists …"

Dividends are paid in cash, and cash is something that every normal person likes. To choose whether or not dividend policy matters, first what dividend policy is all about should be explained. As the query is whether the firm should invest the cash and pay it out later or pay out cash now, dividend policy can be rumored of as the time configuration of dividend payout.

The key objective in mind concerning dividend payouts, and hence every financial decision has to be extension of shareholders' wealth. One way of looking at the wealth of an investor is concerned with the movements in the price of the shares of common stock s/he owns (capital gains or even losses) and the other is clear dividends received (cash payouts). Based on these premises, researchers in the area advanced conflicting "theories" on dividend payouts.

The first is advanced by Merton Miller and Franco Modigliani (1961) state the irrelevance of dividend policy; the second is given by John Lintner (1956) supports the high payout and one advanced by "the leftists" for low payout.

2.5.1. Dividend irrelevance theory

The principal advocates of the dividend irrelevance theory are Merton Miller and Franco Modigliani (1961). They claimed that the firm's value is determined only by its basic earning power and its business risk. In other words, Miller and Modigliani (MM) claimed that the value of the firm be contingent only on the income produced by its assets, not on how this income is riven between dividends and retained earnings. They showed that dividend policy has no effect on either its cost of capital or the price of a firm's stock.

Their main question was: Do companies with generous distribution policies steadily sell at a premium over those with insufficient payouts? Is the opposite ever true?

They began by investigating the outcome of differences in dividend policy on the current price of shares in an ideal economy considered by perfect capital markets, faultless cert and lucid behavior. Still within this logical framework they go on to consider unquestionable closely related issues that appear to have been responsible for substantial misunderstanding of the role of dividend policy. Specifically, their writings focused on the long-standing debate about what investors "really" capitalize when they buy shares; and on the much-proposed relations between price, the rate of growth of dividends per share, and the rate of growth of profits. They let fall the assumption of certainty after the basics have been established.

Miller and Modigliani (MM) claimed that the value of the firm hinge on the income formed by its assets, not on how this income is split between dividends and retained earnings. They showed that dividend policy has no effect on either the price of a firm's stock or its cost of capital. In the 1960's, Miller and Modigliani demonstrated that under certain assumptions about perfect capital markets, dividend policy would be irrelevant.

Any two investors are able to transform the corporation's dividend policy into a different policy by buying or selling on their own. The result is that investors are able to create a **homemade dividend policy**. This means that dissatisfied stockholders can alter the firm's dividend policy to suit themselves. As a result, there is no particular advantage to any one dividend policy the firm might choose.

Many corporations actually assist their stockholders in creating homemade dividend policies by offering automatic dividend reinvestment plans (ADRs or DRIPs).

Given that in a faultless or perfect market dividend policy has no outcome on either the price of a firm's share or its cost of capital, stockholder's wealth is not affected by the dividend assessment and therefore they would be between dividends and capital gains. The reason for their apathetic is that shareholder capitals is affected by the income generated by the investment decisions a firm makes, not by how it distributes that income. Consequently, in Miller's and Modigliani's world, dividends are irrelevant. Miller and Modigliani argued that regardless of how the firm allocates its income, its value is determined by its basic earning power and its investment decisions. According to Miller and Modigliani "…given a firm's investment policy, the dividend payout policy it chooses to follow will affect neither the total returns to shareholders nor the current price of its shares". In other words, investors analyze the value of companies based on the capitalized value of their future earnings, and this is not affected by whether firms pay dividends or not and how firms set their dividend policies.

Miller and Modigliani based their argument upon idealistic assumptions of a perfect capital market and rational investors. The assumptions of a perfect capital market necessary for the dividend irrelevancy hypothesis can be summarized as follows:

- The firm has fixed investment policy
- Perfect capital market

- There is no tax
- Investors are rational
- No risk or uncertainty

Modigliani and Miller approach can be proved by the following formula

$$P_0 = \frac{D_1 + P_1}{(1 + K_e)}$$

Where

P_o = market price of the share at the beginning of period

K_e = Cost of equity capital.

D_1 = Dividend to be received at the end of period one.

P_1 = Market price of the share at the end of period one.

We can calculate P_1 as the following

$$P_1 = P_0(1 + K_e) - D_1$$

2.5.2. Low dividends increase share value theory (the tax-preference argument)

Usually, capital gains and dividends have been taxed differently for most investors, with tax rates on dividends higher than those on capital gains. Accordingly, some have argued that investors on balance would prefer to receive low dividend payments and have the firm retain earnings. In theory, this should cause share price to increase, and if the investor sells the share, the advance would be taxed at the more promising capital gain tax rate (Jones, 1992).

The Miller and Modigliani idea of a perfect capital market eliminate any possible tax effect. It has been assumed that there is no alteration in tax treatment between dividends and capital gains. However, in the real-world taxes exist and may have vital influence on dividend policy and the

value of the firm. Overall, there is often a differential in tax treatment between dividends and capital gains, and, because most investors are interested in *after-tax* return, the effect of taxes might affect their demand for dividends. Taxes may also affect the supply of dividends, when managers respond to this tax preference in seeking to maximize shareholder wealth (firm value) by increasing the retention ratio of earnings.

According to Husam-Aldin Nizar Al-Malkawi, Michael Rafferty and Rekha Pillai (2010) the tax-effect assumption implies that a low dividend payout ratio decreases the cost of capital and increase the stock price. In other words, low dividend payout ratios contribute to increase the firm's value. This argument is based on the assumption that capital gains are taxed at lower rates than dividends. In addition, dividends are taxed instantly, while taxes on capital gains are deferred until the stock is actually sold. These tax advantages of capital gains over dividends tend to predispose investors, who have favorable tax treatment on capital gains, to prefer companies that retain most of their earnings rather than pay them out as dividends, and are willing to pay a premium for low-payout companies. Therefore, a low dividend payout ratio will lower the cost of equity and increases the stock price.

As compared to capital gains taxes in many countries a bigger tax rate is applied to dividends.

So, investors in high tax brackets might require higher pre-tax risk-adjusted returns to hold stocks with higher dividend yield. This connection between pre-tax returns on stocks and dividend yields is the basis of a posited tax-effect hypothesis.

2.5.3. High dividends increase share value theory (bird-in-the- hand theory)

As said by Gordon and Shapiro (1956) one alternative and older view about the effect of dividend policy on a firm's value is that dividends increase firm value. In a world of uncertainty and imperfect information, dividends are valued differently to retained earnings (or capital gains).

Investors choose the "bird in the hand" of cash dividends rather than the "two in the bush" of future capital gains. Growing dividend payments may then be associated with increases in firm value.

As a higher current dividend reduces uncertainty about future cash flows, a high payout ratio will reduce the cost of capital, and hence increase share value. That is, according to the "bird-in-the hand" hypothesis (BIHH) high dividend payout ratios maximize a firm's value.

Graham and Dodd argued that a dollar of dividends has, on average, four times the effect on share prices as a dollar of retained earnings. Studies that provide support for the BIHH include Gordon (1959, 1963), Lintner (1962), and Walter (1963).

Miller and Modigliani (1961) have criticized the BIHH and claimed that the firm's risk is determined by the hazardousness of its operating cash flows, not by the way it distributes its earnings. So, Miller and Modigliani called this argument the bird-in-the-hand fallacy.

Bhattacharya (1979) put forward that the reasoning underlying the BIHH is misleading. Furthermore, he suggested that the firm's threat affects the level of dividend not the other way around. Specifically, the riskiness of a firm's cash flow impacts its dividend payments, but rises in dividends will not minimize the risk of the firm.

Friend and Puckett, (1964) the notion that firms facing greater uncertainty of future cash flow (risk) tend to adopt minimum payout ratios seems to be theoretically acceptable. Empirically, Rozeff (1982) found an adverse relationship between dividends and firm risk. That is, as the risk of a firm's operations upsurges, the dividend payments decline.

2.6. Another view of dividends and dividend payouts

The following section discusses two important concepts related to dividends: the content of the earnings information and the impact on the customer.

2.6.1. Information Content of Dividends

Once we've decided which of the situations discussed above is appropriate, an obvious approach is to look at what happens to stock prices when companies announce dividend changes. He consistently notes that when current dividends rise unexpectedly, share prices rise, and when dividends fall unexpectedly, they generally fall. However, Khang and King (2006) suggest that profit can convey information, but it is not an effective signal that reduces information asymmetry.

When MM (1961) defined their theory of irrelevance dividends, they assumed that everyone - investors and managers alike - had the same information about the company's future earnings and profits. But the reality is that different investors have different views about the size of future dividend payments and the inherent uncertainty of those payments, and managers have better information about future prospects than general shareholders. However, Rimbey and Officer

(1992) argue that given the separation of ownership from control of the firm, managers are seen to be in possession of information not available to outside shareholders.

Khang and King (2006) showed that the evidence does not support traditional dividend signaling models. Instead, the companies with the most dividends have the least information asymmetry.

It has been shown that rising profits often go hand-in-hand with rising stock prices, while falling profits usually lead to falling stock prices. This may suggest that investors typically prefer dividends to capital gains.

Kouki and Guizani (2009) that dividend policy is the response for the preference of shareholders that leads to increase in the dividend distributions by depicting a moderate positive relationship between them.

Kao and Wu (1994) support the claim that dividend changes reflect permanent expected and unexpected changes in earnings. The results of this study show that dividends are closely related to companies estimated long-term profits. Their results also show that changes in dividends reflect changes in the “Perception of Future Companies' Earnings Expectations” segments. Unexpected dividends, which represent the difference between current dividends and contingent dividends, have, on average, a significantly positive relationship to unexpected changes in a company's permanent dividend.

Instead, a decline in earnings or a smaller-than-expected increase is a sign that management is anticipating poor earnings going forward. The MM therefore argued that investor responses to changes in dividend policy do not necessarily suggest that investors prefer dividends over retained earnings. Instead, they argue that price changes after dividend campaigns merely indicate the presence of important information or references to content in dividend announcements. As with many other aspects of dividend policy, empirical studies on signals have produced mixed results. Some empirical studies are discussed in a separate section.

The hypothesis was that in addition to the information that dividends convey; dividends also convey information. If the hypothesis is correct, the additional information should be reflected in the difference between the actual current dividend and the current dividend expectation (current dividend condition). This difference, the unexpected change in dividends, is estimated and used in experiment when unexpected changes in dividends occur, dividend changes are reversed in the future, and the relationship looks positive but weak (Watts, 1973).

Modern financial research offers advanced signal theory as a possible explanation for how markets react to announced changes in dividend payments. Rimbey and the Officer (1992). Companies only pay if managers expect a lot of money in the future. Otherwise, companies could run out of funds in the future and forego valuable investment opportunities or attract expensive foreign funds. Therefore, payment information is transmitted because the use of funds is limited by the fund's sources. Regardless of whether managers consciously use payments as a signaling mechanism (Lie, 2005).

There may be some information content in dividend announcements. However, it's hard to tell whether changes in stock prices after a rise or fall in dividends only reflect signal effects or signal and dividend preferences. However, if a company is considering changing its dividend policy, it is important to consider the implications of the signal.

Theoretical models differ in how they describe the exact type of information provided by dividends. (Venkatesh, 1989).

Travlos et al. (2015) said that if there is an increase in the dividends it shows positive signal with respect to firms' performance and on its stock. Accommodative evidence matched with the results with the perspective of strong support to the signaling theory of dividends by Maditinos et al. (2007). In the real world there are many other factors to be considered so the results did not get the support from theorem of Modigliani and Miller (1961) and the research of Valipour, Rostami, and Salehi (2009) who declared that dividends have no impact on firms' value.

Since its introduction by Miller and Modigliani (1963), the information hypothesis has often been cited in articles and texts on financial management as a possible explanation for the observed

relationship between dividends and stock prices. Since the test of whether dividends convey information was important, Watts (1973) accepted the text by accepting it. When potential earnings information is available, unexpected positive changes in dividends should be accompanied by outstanding positive stock returns or unusually positive returns.

Rose et al. (2008) has also suggested that managers can use capital structure as well as dividends to give signals concerning firms' future prospects. For example, a company with good earnings prospects may have more debt than a similar company with poor earnings prospects. This theory, called incentive signaling, is based on the premise that signals with cash-based variables (debt interest or dividends) cannot be emulated by inefficient companies as they will be able to generate cash to pay dividends in the future will not be declared. Thus, investors are more likely to believe a shining verbal report when it is accompanied by a dividend increase or a debt-financed expansion program.

2.6.2. The Clientele Effect

In the previous discussion, it was argued that some groups (wealthy individuals, for example) have an incentive to pursue low-yielding (or zero payout) stocks. Other groups (e.g. companies) have an incentive to look for high yield stocks. For example, companies with good incomes will attract one group and companies with low returns will attract another group. Baker and Wurgler (2004) argue that the decision to pay dividends is determined by the overwhelming demand of investors for dividend payers. Managers meet investor needs by paying dividends when investors pay a premium to stock payers and by not paying when investors prefer a stock they don't pay.

The different groups of investors are called clienteles, and what has been described is a clientele effect. The clientele effect argument states that different groups of investors desire different levels of dividends. When a firm chooses a particular dividend policy, the only effect is to attract a particular clientele. If a firm changes its dividend policy, then it just attracts a different clientele.

According to Ross et al. (2008), what remains is a simple discussion of supply and demand. Clarify the truth with an example; For example, let's say 40% of all investors prefer high dividends, but only 20% of companies pay high dividends. The supply from high yield companies will become

scarce. So, your stock prices will go up. Therefore, it is beneficial for less profitable companies to change the policy so that 40% of all companies receive large payments. The stock market is now in equilibrium. Further changes to the dividend policy are pointless as all customers are satisfied. An individual company's dividend policy is now irrelevant.

However, Chaplinsky and Seyhun (1990) find that investors do respond to the tax code in making their choices between dividends, long-term capital gains, and other investment income. Investors who avoid dividends will significantly reduce their tax-free dividends compared to long-term capital dividends while increasing the ultimate tax rates. Limited potential investors have little interest in dividends. For investors who do away with dividends, the tax rate is only partially positively related to receiving dividends. Overall, their results show that individuals respond consistently to specific provisions of tax law to reduce their tax liability on investment income.

2.7. Establishing a dividend policy

This section introduces the methods that companies actually use to determine the amount of interest they will pay at any given point in time. As suggested by Ross et al. (2008) Companies can choose one of the three approaches described below.

2.7.1. Residual Dividend Approach

If a company chooses not to sell new stocks, it must rely on domestically produced stocks to fund new positive NPV projects. Dividends are only due on what is left. This excess is called residual and such a dividend policy is called the residual dividend approach.

With a residual dividend policy, the company's aim is to meet investment needs and maintain its debt-to-equity ratio before dividends are paid.

Looking at the discussion so far, it becomes clear that companies with high investment opportunities pay a small percentage of their income as dividends and other companies with fewer opportunities pay a high percentage of their income as dividends. This result seems to happen in the real world. Younger, fast-growing companies tend to use lower payout ratio, while older, slower growing companies tend to use higher payout ratio. Khang and King (2006) argued that the

companies with the higher dividend payouts are often large, mature companies with high free cash flow and little growth potential.

2.7.2. Stable dividends

The key point of the residual dividend approach is that dividends are only distributed when all profitable investment opportunities have been completed. Of course, strict handling of residuals can lead to a very unstable dividend policy. If the investment opportunities are very high in a given period, the profit will be reduced or equal to zero. Conversely, dividends can be high in the next period if investment opportunities are considered as less promising.

Company officials generally agree that sustainable policies benefit the company and its shareholders, which is why sustainable policies are becoming increasingly common. Garrett and Priestley (2000) showed that there exists a target dividend level toward which managers adjust. In our model, costs arise in connection with the adjustment of the dividend and the deviation from the target dividend ratio. Managers improve by making a profit in order to reduce those costs.

2.7.3. A Compromise Dividend Policy

In practice, many companies appear to follow what amounts to a compromise dividend policy. This policy is based on five main objectives: (Lentner, 1956).

1. Avoid cutting back on positive NPV projects to pay a dividend.
2. Avoid dividend cuts.
3. Avoid the need to sell equity.
4. Maintain a target debt-equity ratio.
5. Maintain a target dividend payout ratio.

These goals are more or less ranked in order of importance. The remaining precise approach assumes that the company maintains a debt-to-equity ratio. In the wind-up approach, the level of indebtedness is viewed as a long-term goal. Short-term changes are permitted if this is necessary to avoid a decline in profits or the need to sell new shares.

In addition to having a strong reluctance to cut dividends, financial managers tend to think of dividend payments in terms of a proportion of income, and they also tend to think investors are entitled to a "fair" share of corporate income. (Lintner, 1956).

This share is its target long-term payout ratio, which is part of the dividend the company expects to receive as dividend under normal circumstances. This ratio is also considered to be a long-term goal and can therefore be changed at short notice if necessary (Garrett and Priestley 2000). As a result, long-term earnings growth is aimed at increasing earnings, but with a lag.

The company can reduce the problems of dividend fluctuations by creating two types of dividends, regular dividends and extra dividends. the regular dividend would most likely be a relatively small fraction of permanent earnings, so that it could be sustained easily. Extra dividends would be granted when an increase in earnings was expected to be temporary. Since investors see extra dividends as a reward, there is relatively little discontent when an extra dividend is not reported.

As mentioned above on this chapter, dividend policy is the most controversial area in the financial literature. Several perspectives were presented by scientists with further references to the experimental work of the researchers. As of yet, there is no single dividend policy that managers can follow to add value to the company. The methods used to value common stocks are presented in the next section.

After watching the theories on dividends and the payout approaches followed by companies, it is time to slot in dividends to the valuation of common stocks.

2.8. Common stock valuation

Three facts make the valuation of a share of common stock more difficult in practice than a bond. First since common stock has no maturity, the life of the investment is essentially forever. Second it is not easy to observe the rate of return that the market requires. Third, the promised cash flows are not known in advance. Though, scholars advanced abstractions by which the present value of the future cash flows for a share of stock and hence its value determined. Scholars have managed to explain today's stock price (P_0) in terms of the dividend (DIV_1) and the expected stock price

next year (P_1). Nevertheless, future stock prices are not easy to forecast directly. A formula that needs tomorrow's stock price to explain today's stock price is generally without benefit or advantage.

The other method is to push the problem of coming up with the stock price off into the upcoming forever. It is vital to note that no matter what the stock price is, the present value is essentially zero if the transaction of the stock is far sufficient away. Finally, the current price of the stock can be written as the present value of the dividends beginning in one period and extending out forever: (Brealey, et.al. 2001)

2.8.1. The dividend discount model

As it goes with a refined model, a stock's value can be stated as the present value of all the estimate future dividends paid by the company to its shareholders without denoting to the future stock price. The following is the dividend discount model:

P_0 = present value of (DIV_1, DIV_2, DIV_3, . . .DIV_t . . .)

$$\mathbf{P_0} = \frac{\mathbf{DIV_1}}{(\mathbf{1}+r)} + \frac{\mathbf{DIV_2}}{(\mathbf{1}+r)^{\mathbf{2}}} + \frac{\mathbf{DIV_3}}{(\mathbf{1}+r)^{\mathbf{3}}} + \cdots + \frac{\mathbf{DIV_t}}{(\mathbf{1}+r)^{t}}$$

By means of looking at progressively long investment prospects. Imagine investors with different investment prospects. All investors will value the share of stock as the present value of the dividends that they expect to obtain plus the present value of the price at which the stock is finally sold. Different from bonds, however, the final horizon date for stocks is not stated—stocks do not "mature." Furthermore, both dividends and final sales price can only be assessed. Nevertheless, the general valuation method is the similar. According to Brealey et.al (2001) the valuation formula for a one-period investor looks like this:

$$\mathbf{P_o} = \frac{\boldsymbol{DIV}\mathbf{1}+\boldsymbol{P}\mathbf{1}}{r+\mathbf{1}}$$

Regardless of the investment horizon, the stock value will be the same. This is because the stock price at the horizon date is resolute by expectations of dividends from that date forward. Consequently, as long as the investors are consistent in their assessment of the horizon of the firm, they will reach at the same present value.

If the prospect is infinitely far, then an investor can disremember about the final horizon price - it has nearly no present value - and simply say Stock price = PV (all future dividends per share). This is the dividend discount model.

2.8.2. The constant-growth dividend discount model

The dividend discount model needs a forecast of dividends for each year into the future, which stances a problem for stocks with possibly infinite lives. Academics and shareholders must consequently use abridging molds to reduce the number of estimates. The simplest simplification undertakes a no-growth eternity which works for no-growth common shares.

If dividends grow at a stable rate, then instead of forecasting a vast number of dividends, the forecast required will only be the subsequent dividend and the dividend growth rate.

Although there is countless number of terms, every term is proportionately smaller than the previous one providing the dividend growth rate **g** (the growth rate) is less than the discount rate **r (the required rate of return)**. Since the present value of far-distant dividends will be ever-closer to zero, the sum of all of these terms is finite in spite of the fact that an infinite number of dividends will be paid.

The sum can be shown to equal

$$\boldsymbol{Pv = \frac{DIV1}{r - g}}$$

This equation is called the Gordon growth model after Myron Gordon, who did much to popularize it or the constant-growth dividend discount model.

Few real firms are expected to grow in such a suitable and regular way.

But, in some mature firms, growth is reasonably stable and the constant-growth model nearly valid. In such situations the model can be turned around to conclude the rate of return expected by investors.

2.8.3. Non- constant-growth dividend discount model

According to Brealey et al. (2001), many firms grow rapidly or unevenly over several years before they finally stabilize. In such cases, of course, we cannot use the dividend discount model. However, scientists have already considered another method. Establishing the investment outlook (year H) for the next year, which is expected to stabilize the company's growth. Determine the present value of dividends from now up to the general horizon. Predict the stock price for that year and subtract the current value. Then add the total present value of the dividend plus the final stock price. The formula is

$$P_0 = \frac{DIV_1}{(1+r)} + \frac{DIV_2}{(1+r)^2} + \frac{DIV_3}{(1+r)^3} + \cdots + \frac{DIV_H}{(1+r)^H} + \frac{P_H}{(1+r)^H}$$

P_v of dividend from year 1 to horizon

Pv of stock price at horizon

The stock price in the prospect year is called terminal value.

2.9. Review of Empirical Studies

Several experimental tests are required to test the strength of the Lintner model. For example, Fama and Babiak (1968) explained that dividends are more likely to rise (fall) when dividends rise (fall). As Mantripragada (1972) argued, the question of stable dividends in detail was one of the questions raised in this study: Is it true that stocks that pay dividends equal to fixed dollar dividends have higher prices than stocks that pay?

These consequences can be relied on in Watts (1973) and Fama (1974). According to Healy and Papelu (1988), dividend enables information to be conveyed about expected returns, which supports Lintner's profit-sharing policy. In addition, Fama and French (2001) reevaluated the idea of profitability. Fama and French (2001) suggest that companies that never pay dividends have, on average, lower dividends in the long run than companies that do.

In this regard, many authors have tried to reach the apex of the link between profit and loss policies. DiAngelo et al. (1992) also mentioned the dividend policy of companies that suffer a one-year loss after at least 10 years of profit. Their research showed that losses are not a necessary (but sufficient) issue and explain the decline in profits. Companies that have reduced their profits have bigger problems than companies that haven't.

De Angelo et al. (1996) examines the dividend policy of companies whose annual results have declined after at least 9 years of growth. They don't state what dividends will allow companies to determine the next dividend. For them, dividends are not a fixed signal that can provide information about expected profit, as managers tend to overestimate them. Therefore, Johnson (1995) examines the influence of financial indicators on the perception of the decline in dividends.

Your study shows two interesting results. Dividends first decrease before the dividend cut period and then increase immediately after the period. Second, the dividend decline generally reflects the announcements of the restructuring plan. Dividend theories imply that changes in dividends have information content about the future earnings of the firm. Benartzi et.al (1997) investigates this implication and find only limited support for it. Firms that increase dividends in year 0 have experienced significant earnings increases in years -1 and 0, but show no subsequent unexpected earnings growth. Also, the size of the dividend increase does not predict future earnings. Firms that cut dividends in year 0 have experienced a reduction in earnings in year 0 and in year -1, but these firms go on to show significant increases in earnings in year 1.

A new study by Goergen et al. (2005) examines the relationship between profit and profit using the concept of target quota. When examining German companies, the authors show that these companies pursue a long-term profit target. In the performance-profit relationship, the relationship is not between profit and dividend, but rather between cash flow and dividend, because cash flow is a better performance in terms of profit distribution. Skinner (2004) also analyzes the relationship between profit and profit. His results are in agreement with Linterer's results. He found that companies are reluctant to raise dividends if they are unsure whether they are paying the same dividends. Skinner also points out that companies use these payments to convince investors that their financial statements are trustworthy.

If earnings affect dividends, like Lee (2005), I know whether lower earnings affect company performance. Lee (2005) even discusses the relationship between performance and profit. Several results have been reported based on the study by Nasim and Zio (2001). First, the dividend cut won't change the company's expected performance. In fact, information conveyed through lower revenue may explain the company's performance in the previous year, and this study is supported by Grullon et al. (2002). Additionally, Lee (2005) notes that profits decline before dividends are reduced or withdrawn. Second, the lack of performance degradation may be due to the veteran's bias problem, as observed in previous experimental studies. Indeed, the lack of data (due to the fact that companies with lower impact are more likely to go bankrupt) could explain the results of a recent study. Third, falling dividends are not associated with increasing share redemptions (Vermaelen, 1981). The effect of substitution (Grullon and Michaely, 2002) is not clearly evident

in Lee's study (2005). Fourth, the loss of profits may be due to a lack of financial flexibility or, in particular, a situation where profits cannot be increased due to liquidity problems. According to Lee, this concept of low financial flexibility is what drives lower incomes. Fifth, the reduction or elimination of profits may be the result of a tendency to capitalize on growth opportunities that improve performance over the long term. The results confirm that companies are reducing their investments after reducing or cutting profits.

Finally, the results of Lie (2005) seem to confirm the results of Lintner (1956). According to Lie (2005), managers can expect the company's performance to deteriorate. But maybe because they hope that performance will suddenly improve, they only reduce their profits after a period of time that forces them to. "According to this study, Brav et al. (2005) showed through interviews with experts (CFO and CEO) that dividend payments can be important. Shutting down really only occurs in exceptional cases. The dividend policy is a secondary policy, however, as the increase in profits is only taken into account after the investment and the money needed to run the business. Ahmed et.al. (2009) examined the dynamics and determinants of dividend payout policy of 320 nonfinancial firms listed in the Karachi Stock Exchange during the period of 2001 to 2006. They used the extended model of Lintner, Fama and Babiak.

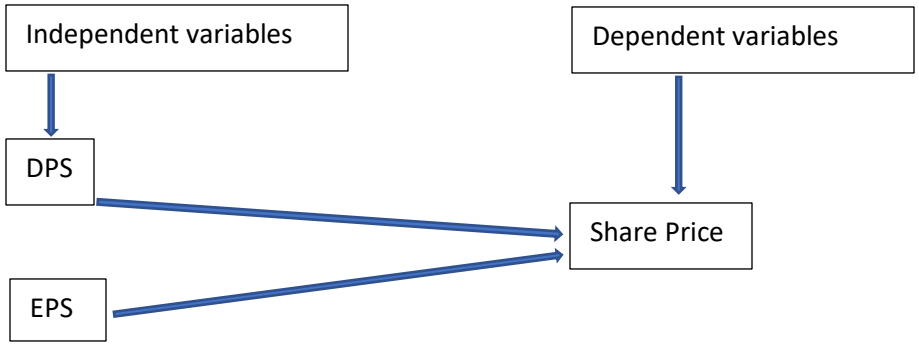
Finally, these studies analyze book gain value to demonstrate cost sharing costs. These studies are also common in that the authors show, relatively, that information is balanced between stakeholders. This view is shared by Miller and Modigliani, who want to explore the relationship between profit and value.

2.10. Research Gap Analysis

Though many studies have been made on dividend payout and share price, most of the studies were done in developed countries and few done in developing countries. In Ethiopian case there is no much research on the subject. Due to the unique nature of the banking industry and its contribution on the growth of national economy, it requires to be supported by scientific knowledge. In addition to this, Ethiopian banking industry is on growing stage so many researches have to be done to improve the industry and the economy as a whole.

2.11. Conceptual Framework

This conceptual frame work shows the relationship between the dependent variable i.e. share price and two independent variables, dividend per share (DPS) and earning per share (EPS).



CHAPTER THREE

RESEARCH METHODOLOGY

This chapter discusses the methodology and methods used in carrying out the research for the thesis. An analysis of the thesis shows that the research employed quantitative method to examine the impact of dividend on the share prices of Ethiopian private banks. Moreover, the research was conducted within a functionalist paradigm thought to be appropriate for the questions being examined.

3.1. Research Design

According to Klopper (2008), a research design is a design or design that a researcher will use to conduct research. This study uses an explanatory or causal research design. Causal research falls into the category of categorical research as it seeks to uncover the cause-and-effect relationships between variables. This study examines the relationship between dividend policy and stock prices for sixteen private banks in Ethiopia, namely Abay bank, Addis international bank, Awash bank, Berhan bank, BOA, Bunna bank, Cooperative bank of Oromia, Dashen bank, DGB, Enat bank, Hibret Bank, Lion international bank, Nib bank, Oromia international bank, Wegagen bank and Zemen bank. Surveys include cross-sectional and longitudinal studies with secondary data and structured interviews to collect data with the aim of generalizing from the sample to the population

3.2. Research Approach

There are basically two main types of research approaches which describe the relationship between theory and the research process, deductive and inductive. The main difference between the two approaches is that the deductive tests already existing theories while the inductive approach tries to generate new theories based on the empirical data Saunders et al. (2009). This study is going to base research on already existing theories therefore, the deductive approach is most appropriate in this case.

3.3. Data

Data for six years (2015-2020) were obtained from sixteen private banks which were operating on the given period. The information provided before 2015 was not used to match the sixteen banks for six consecutive years for the information obtained.

Table 2 Establishment year, paid up capital and Dividend Paid

Name of the Bank	Establishment Year	Paid up Capital in Billion Birr (2020)	Dividend Paid Birr'000					
			2015	2016	2017	2018	2019	2020
Abay Bank	2010 G.C	2.2	42,747	74,910	109,428	141,446	243,827	377,565
Addis int Bank	2011 G.C	1.5	33,491	106,030	28,897	69,191	78,792	114,711
Awash Bank	1994 G.C	5.85	439,945	459,233	529,363	713,459	143,474	579,098
Brehan Bank	2010 G.C	2.451	69,781	78,412	189,305	261,464	208,133	397,304
BOA	1966 G.C	3.15	202,583	215,431	281,563	400,147	88,149	167,836
Bunna int Bank	2009 G.C	2.167	50,130	84,742	139,085	150,389	204,479	350,208
COOP	2005 G.C	3	22,727	59,688	0	183,079	203,292	334,524
Dashen Bank	1995 G.C	3.479	400,427	292,717	120,595	353,037	547,817	77,992
DGB	2012 G.C	1	0	12,004	38,554	37,193	48,002	148,587
Enat Bank	2013 G.C	1.4	35,455	37,321	56,243	71,380	72,404	13,644
Hibret Bank	1998 G.C	3.194	253,102	236,244	232,060	304,212	366,298	389,637
Lion int Bank	2006 G.C	2.2	69,539	63,774	77,633	198,191	212,875	356,450
Nib Bank	1999 G.C	3.4	173,007	231,895	377,311	386,133	332,077	490,309
Oromia int bank	2008 G.C	3	38,355	23,039	42,179	39,443	54,276	128,491
Wegagen Bank	1997 G.C	2.9	97,051	108,362	137,142	160,074	150,521	186,180
Zemen Bank	2009 G.C	1.05	95,854	114,853	152,031	197,727	190,766	350,088

Source: from NBE and annual report of the sixteen banks

Table 3 Earning per Share

Name of the Bank	Paid up Capital in Billion Birr (2020)	(Earning per Share)					
		2015	2016	2017	2018	2019	2020
Abay Bank	2.2	271.8	230.7	229	284.28	343.36	269.66
Addis int Bank	1.5	187	193	164	171.1	206.6	225.1
Awash Bank	5.85	445	371	409	543	632	510
Brehan Bank	2.451	207	399	304.4	203.6	246.5	258.8
BOA	3.15	6.96	7.89	8.76	6.11	7.23	7.2
Bunna int Bank	2.167	286.63	343.23	284	286	286.94	225.05
COOP	3	41.7	4.4	36	42	36	47
Dashen Bank	3.479	589	487	392	430	408	490
DGB	1	91.66	222.83	103	131	323	347
Enat Bank	1.4	164.3	167.6	168	184	185	161
Hibret Bank	3.194	29.82	32.44	24.95	35.39	39.13	29.79
Lion int Bank	2.2	10.63	11.97	7.79	7.55	9.5	8.41
Nib Bank	3.4	137	129	149	134	154	166
Oromia int bank	3	364	310	278	525	374	320
Wegagen Bank	2.9	244	222	273	365	256	313
Zemen Bank	1.05	320	367	386	286	398	462

Source: from annual report of the sixteen banks

The dividends paid annually include cash dividends and capital available to investors. Dividends paid in cash as well as dividends invested in equity are considered "dividends" because both ways are used to maximize shareholder returns. This is based on the premise that shareholders can receive a cash value of the capital dividend if they wish.

The weighted average of the number of shares available during the year was used to calculate the earnings per share (EPS) and the dividend per share. It is important to consider the average number of shares available as the number of shares available varies each year over the course of a year.

Dividend per share and earnings per share (EPS) are determined in relation to the par value of the respective banks, according to which the banks assign different nominal values to their shares. In order to determine a return on 1 birr invested, it is necessary to define the return variables as a percentage of the par value of the stock.

The clearing share price was determined from the date of the buy / sell transactions by the investors. Interviews were conducted to obtain the average clearing price for each year. There is seldom any transfer of ownership between investors in these stocks, and the initial charge (which is determined by management or the shareholders' meeting) is added to face value to achieve the potential clearing price (the price at which the share was sold to new investors).
Correlation technique between variables was used to see the relationship between dividend and share price.

3.4. Source of data and data collection method

Private commercial banks are contacted based on dividend history and share price data. This data is used for banks that were active before 2015. The annual financial statements of selected banks serve as the data source. All bank details (income statement, balance sheet and account holder account) are used to find the relationship between interest rate variables. Interviews with employees were the only reliable source of information on stock prices. Before finalizing the results, the reports of the board of directors and the supervisory evidence of the national banks are examined.

3.5. Operational Definitions

Variables and their proxies are selected on the basis of past studies. The author selected two variables which may affect the share price of banks. These variables are DPS (dividend per share) and EPS (earning per share).

3.5.1. Dependent Variable

Share price (CP) has been used as the dependent variable in the study. Share price is the price of a single share of a number of saleable equity shares of a company. In other word share price is the highest amount someone is willing to pay for the stock, or the lowest amount that it can be bought for.

3.5.2. Independent Variables

Although there are plenty of potential determinants for the share price, the bank specific explanatory variables which included in this study are dividend per share (DPS) and earning per share (EPS).

a. Dividend per share (DPS)

Dividend per share (DPS) is the sum of declared dividends issued by a company for every ordinary share outstanding. Dividend per share can be calculated by dividing the total dividend paid the weighted average number of ordinary shares outstanding during the period.

b. Earnings per share (EPS)

Earnings per share can be calculated by dividing the net profit or loss for the period attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period. EPS indicates how much money a company makes for each share of its stock and is a widely used metric for estimating corporate value.

3.6. Analysis

As noted in the literature review, there are three facts that make valuing common stocks more difficult than bonds in practice. First, the promised cash flows are not known in advance. Second, since common stock has no maturity, the life of the investment is essentially forever. Third, it is not easy to observe the rate of return that the market requires.

The 1st problem is that none of the selected banks paid stable dividends. This means there was no way to know in advance the stream of cash flows associated with their common stock.

The 2nd problem gets even worse in countries where there is no stock market. In such countries, the future price of the stock, which is added to the stream of dividends in most valuation models, is heavily dependent on the will of management of the corporation. In this study, the share premium

(as set by management or the general meeting of shareholders) was added to the par value to arrive at the potential clearing price (the price at which the shares were sold to new investors).

The 3rd problem also gets worse in developing nations like Ethiopia. The fact that investment is low and the absence of functioning securities market (both stock and bond), makes it difficult to compare and infer the rate of return among investments. According to the national bank of Ethiopia, for every birr invested in the banking sector, there was average of 19.58 cents of return in the years between 2015 and 2019 (NBE 2019). The return on equity of the sixteen banks is used as a required rate return for the valuation of common stock in this study.

None of the models developed for the valuation of common stock appeal for the Ethiopian banking industry. The non-constant dividend model cannot be used. Banks didn't pay fixed dividends that stopped over time. Some even pay less profit than in previous years.

The decision is to only discount dividends and share prices by one year backward in order to match the previous year's price (which theoretically should be the price) and to compare it with the actual price determined by the bank. Retrospective prices are calculated using the one period dividend discount model.

$$\boldsymbol{P_0 = \frac{D_1 + P_1}{(1 + K_e)}}$$

The interest here about the valuation of the shares in retrospect is to see weather dividends were the major factors that push share prices up or down.

Letter better approximation was used to discount dividends using the constant growth dividend discount model.

$$\boldsymbol{Pv = \frac{DIV1}{r - g}}$$

Pearson's correlation coefficients are calculated between dividends per share and share prices, dividends per share stated in terms of par and share prices per par, EPS and share prices per par, EPS per par and share prices per par.

3.6.1. Analysis tools and technique

A number of statistical tests have been conducted in order to determine whether there is a relationship between the selected determinant factors and the share price. The main statistical program used in the research is EViews 10 and SPSS 20 which is commonly used in these types of studies.

3.6.2. Correlation Analysis

In order to determine whether there is a significant association between banks share price and the independent variables, Pearson correlation analysis was conducted.

3.6.3. Regression Analysis

In order to determine whether there is a significant relationship between share price and the determinant factors, ordinary least square (OLS) regression analysis was conducted.

3.6.4. Hypothesis Testing

In order to determine whether there is a relationship between the share price and the selected determinant factors the researcher formulated a number of hypotheses. The structure of all hypotheses is the same, the null hypothesis states that there is no significant relationship between the selected determinant factor and the share price, H0: $r = 0$. The alternative hypothesis states that there is a significant relationship between the selected determinant factor and the share price in private banks of Ethiopia, HA: $r \neq 0$.

In order to make sure that the results are significant and to be able to confirm or reject the stated hypothesis the researcher used the t-statistic with corresponding p-value tests. The p-value measures the amount of statistical evidence supporting the alternative hypothesis. In order to be able to reject the null hypothesis in favor of the alternative hypothesis the p-value should be as low as possible but it depends on a number of factors. In order to prove that the alternative hypothesis is true, the p-value should preferably be as low as possible.

The hypothesis used in the study

Null hypotheses

$H0_1$: There is no significant relationship between DPS and share price

$H0_2$: There is no significant relationship between EPS and share price

Alternative hypotheses

HA_1: There is significant relationship between DPS and share price

HA_2: There is significant relationship between EPS and share price

Based on the research hypotheses the following relationship were expected for the share price and the selected independent variables.

Table 4 Variable Definition and Expected Signs

Variables	Definition	Expected sign
Share price (CP)	Share price is the price of a single share of a number of saleable equity shares of a company	
Dividend per share (DPS)	Total dividend paid / weighted average number of shares outstanding	Positive
Earnings per share (EPS	Net profit / weighted average number of shares outstanding	Positive

3.6.5. Model Specification

The nature of the data used in this study is cross-sectional data enabled to use panel data model which is deemed to have advantages over cross sectional and time series data methodology. 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 (Brook 2008). The general form of the panel data model can be specified more compactly as:

$$y = \alpha + \beta x$$

Where: "y" represents the dependent variable, which is the bank's share price;

"x" contains the set of explanatory variables in the model mentioned above, which are DPS and EPS;

"α" is taken to be constant over time t and specific to the individual cross-sectional unit

The share price will be regressed against the independent variables, by the equation below.

$CP = \alpha + \beta_1 DPS + \beta_2 EPS$

Where "CP" is share price,

“DPS” is dividend per share,

“EPS” is earning per share,

“β" is regression coefficient and

“α” is the constant

3.6.6. Diagnostic Tests

The assumptions that need to be satisfied and tested in this study are: heteroskedasticity test, Autocorrelation test, multicollinearity test and normality test.

a. Heteroskedasticity Test

The H_0 = residuals are not heteroscedastic

Decision

- reject H_0, if p-values are significant (less than significant level)
- don’t reject H_0, if p-values are insignificant (greater than significant level).

b. Autocorrelation Test

Autocorrelation happens when there is a correlation between two consecutive observations of the residuals. This is a common problem when time series data is used.

The H_0 = there is no serial correlation

Decision (Breusch-Goldfrey test)

- reject H_0, if p-values are significant (less than significant level)
- don’t reject H_0, if p-values are insignificant (greater than significant level).

c. Multicollinearity Test

Multicollinearity occurs when independent variables in a regression model are correlated. It affects the coefficients and p-values, but it does not influence the predictions, precision of the predictions, and the goodness-of-fit statistics.

The H_0 = there is no problem of multicollinearity

Decision

- reject H_0, if correlation values exceed cutoff point i.e., 70%
- don't reject H_0, if correlation values are less than the cutoff point

d. Normality Test

It is based on the assumption that requires a normal distribution to the disturbance term or the residuals. If the residuals are not normally distributed, then the dependent variable or at least one explanatory variable may have the wrong functional form, or important variables may be missing.

The H_0 for normality test states that residuals follow a normal distribution.
The decision rule is

- reject H_0, if p-values are significant (less than significant level)
- don't reject H_0, if p-values are insignificant (greater than significant level).

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

The Ethiopian banking sector is considered one of the most profitable companies. At least in the bank / population ratio, there is still room for space. For each Birr collects average of approximately 19.58 cents during 2015-2019 (NBE 2019). The table below shows the return on equity of the privet banks in Ethiopia, the gain is used as the discount rate for the most general value of shares in this section.

Table 5 Return on Equity

Bank	**Abay bank**	**Addis int Bank**	**Awash Bank**	**Berhan Bank**	**BOA**	**Bunna int bank**	**COOP**	**Dashen Bank**
Return on Equity	19.4	15.08	28.8	20.08	17.04	19.6	20	20.87
Bank	**DGB**	**Enat Bank**	**Hibret bank**	**Lion int Bank**	**Nib int bank**	**Oromia int Bank**	**Wegagen Bank**	**Zemen Bank**
Return on Equity	17.2	13.8	19	22	17.39	22.8	17.04	22.43

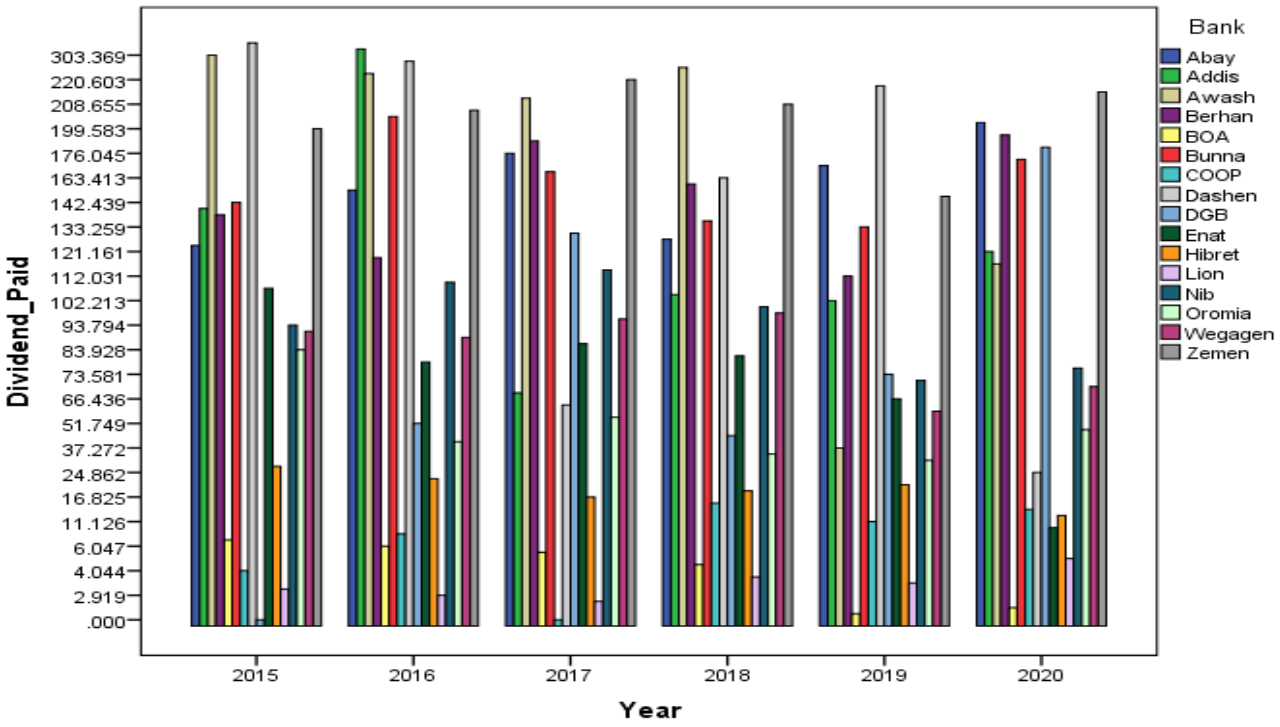
Source: National Bank of Ethiopia (NBE) report

This section analyzes performance metrics. Private bank earnings per share (EPS), dividends, and stock prices are shown to see if the above two factors are the most important factors investors consider when making an investment decision.

4.1. Data presentation and discussion

Below are preliminary data for model banks regarding the years 2015-2020. The chart below shows the profit each bank has paid over the six years included in this study. The group in all tables is in alphabetical order, from Abay Bank to Zemen Bank.

Figure 1 Dividend Paid each year



Source: SPSS 20 output

Annual gross interest payments vary from bank to bank for reasons beyond the scope of this study. Awash, Dashen and Zemen generally pays more dividends (Birr) than other banks surveyed.

As can be seen from the tables below, BOA, Lion international bank and Hibert Bank are in the lead with the largest shares, followed by the other thirteen banks. This is because BOA, Lion international bank and Hibert Bank has set minimum par values. That is, 25, 25 and 100 Birr respectively, while the others have 1,000 Birr par values except Nib with par value of 500 and Cooperative bank of Oromia with par value of 100.

Correlation coefficients for interest rate variables by bank are determined under each of the following tables. Below the tables are the specific facts of each bank with a brief discussion of the results. A general analysis of the data from the three banks is presented in the continuation of this chapter. Abay bank is the first one to be studied, then Addis international bank, next to that Awash will be studied then all the way to Zemen bank.

Table 6 Dividend, EPS and Share price of Abay Bank

ABAY BANK, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	42,747,276	346,167	123.487	0.123	271.800	0.272	1,000	1.000
2016	74,910,598	476,284	157.281	0.157	230.700	0.231	1,050	1.050
2017	109,428,782	621,595	176.045	0.176	229.000	0.229	1,175	1.175
2018	141,446,000	1,115,045	126.852	0.127	284.280	0.284	1,000	1.000
2019	243,827,000	1,460,825	166.910	0.167	343.360	0.343	1,115	1.115
2020	377,565,000	1,858,648	203.140	0.203	269.660	0.270	1,355	1.355
Sum	989,924,656	5,878,565	953.716	0.954	1,629	1.629	6,695	6.695
Mean	164,987,442.67	979,760.83	158.95	0.16	271.47	0.27	1,115.83	1.12

Source (from annual report of Abay Bank, 2015-2020)

Correlation DPS with CP/P = 0.949

Correlation EPS/P with CP/P = -0.063

The correlation between DPS and share price is strong since it is near to one but the correlation between EPS and share price is very week.

Table 7 Dividend, EPS and Share price of Addis International Bank

Addis International Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	33,491,108	235,268	142.353	0.142	187	0.187	1,095	1.095
2016	106,030,703	331,693	319.665	0.320	193	0.193	2,460	2.460
2017	28,897,024	421,896	68.493	0.068	164	0.164	1,000	1.000
2018	69,191,000	659,877	104.854	0.105	171.1	0.171	1,005	1.005
2019	78,792,000	770,862	102.213	0.102	206.6	0.207	1,000	1.000
2020	114,711,000	946,761	121.161	0.121	225.1	0.225	1,010	1.010
Sum	431,112,835	3,366,357	859	0.859	1,147	1.147	7,570	7.57
Mean	71,852,139.17	561,059.53	143.12	0.14	191.13	0.19	1,261.67	1.26

Source (from annual report of Addis International Bank, 2015-2020)

Correlation DPS with CP/P = 0.974

Correlation EPS/P with CP/P = 0.038

Strong correlation between DPS and share price is observed in the case of Addis International bank but the correlation between EPS and share price is week.

Table 8 Dividend, EPS and Share price of Awash Bank

Awash Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	439,945,251	1,450,197	303.369	0.303	445	0.445	2,025	2.025
2016	459,233,061	2,004,760	229.071	0.229	371	0.371	1,530	1.530
2017	529,363,181	2,452,174	215.875	0.216	409	0.409	1,440	1.440
2018	713,459,000	2,748,481	259.583	0.260	543	0.543	1,730	1.730
2019	143,474,000	3,849,413	37.272	0.037	632	0.632	1,000	1.000
2020	579,098,000	5,080,696	113.980	0.114	510	0.51	1,000	1.000
Sum	2,864,572,493	17,585,720	1,159	1.159	2,910	2.91	8,725	8.725
Mean	477,428,748.83	2,930,953.38	193.19	0.19	485.00	0.49	1,454.17	1.45

Source (from annual report of Awash Bank, 2015-2020)

Correlation DPS with CP/P = 0.950

Correlation EPS/P with CP/P = -0.476

Very strong correlation between dividend and share price and bizarre association between the EPS and share price was seen in the case of Awash Bank. A negative correlation between these variables is a weirdest thing one could ever expect.

One explanation for such an inverse relation could be the fact that share premiums are set for new investors after the preemptive rights of existing shareholders are settled and management's strong desire to boost company image even though dividends per share is declining.

Table 9 Dividend, EPS and Share price of Berhan Bank

BERHAN BANK, Par=1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	69,781,666	505,071	138.162	0.138	207	0.207	1,000	1.000
2016	78,412,259	652,116	120.243	0.120	399	0.399	1,000	1.000
2017	189,305,000	1,042,159	181.647	0.182	304	0.304	1,210	1.210
2018	261,464,000	1,610,442	162.355	0.162	203	0.203	1,082	1.082
2019	208,133,000	1,857,812	112.031	0.112	246	0.246	1,000	1.000
2020	397,304,000	2,137,401	185.882	0.186	258	0.258	1,240	1.240
Sum	1,204,399,925	7,805,001	900.320	0.900	1,617	1.617	6,532	6.532
Mean	200,733,321	1,300,834	150.053	0.150	270	0.270	1,089	1.089

Source (from annual report of Berhan Bank, 2015-2020)

Correlation DPS with CP/P = 0.937

Correlation EPS/P with CP/P = -0.024

Bizarre association between the EPS and share price was seen in the case of Berhan Bank but the correlation between dividend and share price was very strong.

Table 10 Dividend, EPS and Share price of BOA

Bank of Abyssinia, Par= 25								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	202,583,521	31,013,654	6.532	0.261	6.96	0.278	43.547	1.742
2016	215,431,744	35,625,588	6.047	0.242	7.89	0.316	40.314	1.613
2017	281,563,000	58,307,991	4.829	0.193	8.76	0.350	32.192	1.288
2018	400,147,000	92,111,293	4.344	0.174	6.11	0.244	28.961	1.158
2019	88,149,000	107,470,816	0.820	0.033	7.23	0.289	26.468	1.059
2020	167,836,000	118,561,667	1.416	0.057	7.2	0.288	27.437	1.097
Sum	1,355,710,265	443,091,008	23.988	0.960	44.15	1.766	198.919	7.957
Mean	225,951,710.83	73,848,501.31	4.00	0.16	7.36	0.29	33.15	1.33

Source (from annual report of BOA, 2015-2020)

Correlation DPS with CP/P = 0.881

Correlation EPS/P with CP/P = 0.168

Even if the correlation between DPS and share price is low compared to the other banks above it shows a very strong correlation. But the correlation between EPS and share price is week in the case of Bank of Abyssinia.

Table 11 Dividend, EPS and Share price of Bunna International Bank

Bunna International Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	50,130,485	351,942	142.439	0.142	286.63	0.287	1,000	1.000
2016	84,742,166	408,721	207.335	0.207	343.23	0.343	1,385	1.385
2017	139,085,000	833,919	166.785	0.167	284	0.284	1,110	1.110
2018	150,389,000	1,102,318	136.430	0.136	286	0.286	1,000	1.000
2019	204,479,000	1,534,446	133.259	0.133	286.94	0.287	1,000	1.000
2020	350,208,000	2,050,069	170.827	0.171	225.05	0.225	1,140	1.140
Sum	979,033,651	6,281,415	957.076	0.957	1711.850	1.712	6635	6.635
Mean	163,172,275.17	1,046,902.56	159.51	0.16	285.31	0.29	1,105.83	1.11

Source (from annual report of Bunna International Bank, 2015-2020)

Correlation DPS with CP/P = 0.982

Correlation EPS/P with CP/P = 0.485

In the case of Bunna International bank the correlation between DPS and Share price is 0.982 which is very strong whereas the correlation between EPS and share price is 0.485 so since its less than 0.5 it is week but compared to the above banks it is better.

Table 12 Dividend, EPS and Share price of Cooperative Bank of Oromia

Cooperative Bank of Oromia, Par= 100								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	22,726,868	5,619,390	4.044	0.040	41.700	0.417	100	1.000
2016	59,688,509	6,667,625	8.952	0.090	4.400	0.044	100	1.000
2017	-	939,389	-	-	36.000	0.360	100	1.000
2018	183,079,000	12,462,286	14.691	0.147	42.000	0.420	113	1.130
2019	203,292,000	18,271,167	11.126	0.111	36.000	0.360	100	1.000
2020	334,524,000	25,162,106	13.295	0.133	47.000	0.470	105	1.050
Sum	803,310,377	69,121,963	52.108	0.521	207.1	2.071	618	6.18
Mean	133,885,062.83	11,520,327.10	8.68	0.09	34.52	0.35	103.00	1.03

Source (from annual report Cooperative Bank of Oromia, 2015-2020)

Correlation DPS with CP/P = 0.675

Correlation EPS/P with CP/P = 0.394

Cooperative bank of Oromia shows moderate relationship between DPS and share price but the correlation between EPS and share price is week.

Table 13 Dividend, EPS and Share price of Dashen Bank

DASHEN BANK, Par=1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	400,427,000	928,439	431.2906	0.431291	589	0.589	2450	2.45
2016	292,717,547	1,119,687	261.428	0.261428	487	0.487	1745	1.745
2017	120,595,934	1,915,867	62.94588	0.062946	392	0.392	1000	1
2018	353,037,000	2,160,396	163.4131	0.163413	430	0.43	1090	1.09
2019	547,817,000	2,494,000	219.654	0.219654	408	0.408	1465	1.465
2020	77,992,000	3,137,000	24.86197	0.024862	490	0.49	1000	1
Sum	1,792,586,481	11,755,389	1,163.59	1.164	2,796	2.796	8,750.00	8.75
Mean	298,764,414	1,959,231.5	193.93	0.194	466	0.466	1458.3333	1.458333

Source (from annual report of Dashen Bank, 2015-2020)

Correlation DPS with CP/P = 0.964

Correlation EPS/P with CP/P = 0.793

For Dashen Bank, a very strong correlation between dividends and share price with moderate association between EPS and share price were observed in the above table.

Table 14 Dividend, EPS and Share price of Debub Global Bank

Debub Global Bank, Par = 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	-	187,623	-	-	91.66	0.092	1,000	1.000
2016	12,004,636	231,977	51.749	0.052	222.83	0.223	1,000	1.000
2017	38,554,000	292,942	131.610	0.132	103	0.103	1,012	1.012
2018	37,193,000	814,000	45.692	0.046	131	0.131	1,000	1.000
2019	48,002,000	652,368	73.581	0.074	323	0.323	1,000	1.000
2020	148,587,000	842,666	176.330	0.176	347	0.347	1,356	1.356
Sum	284,340,636	3,021,576	478.962	0.479	1,218.490	1.218	6,368	6.368
Mean	47,390,106	503,596	79.827	0.080	203.082	0.203	1,061	1.061

Source (from annual report of Debub Global Bank, 2015-2020)

Correlation DPS with CP/P = 0.759

Correlation EPS/P with CP/P = 0.617

In the case of Debub Global Bank, both correlations dividend per share with share price and also EPS with share price shows moderate correlation.

Table 15 Dividend, EPS and Share price of Enat Bank

Enat Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	35,455,098	323,274	109.675	0.110	164.3	0.164	1,220	1.220
2016	37,321,156	471,228	79.200	0.079	167.6	0.168	1,000	1.000
2017	56,243,000	667,875	84.212	0.084	168	0.168	1,005	1.005
2018	71,380,000	863,451	82.668	0.083	184	0.184	1,005	1.005
2019	72,404,000	1,089,832	66.436	0.066	185	0.185	1,000	1.000
2020	13,644,800	1,295,460	10.533	0.011	161	0.161	1,000	1.000
Sum	286,448,054	4,711,120	433	0.433	1,030	1.030	6,230	6.230
Mean	47,741,342.33	785,186.69	72.12	0.072	171.65	0.17	1,038.33	1.04

Source (from annual report of Enat Bank, 2015-2020)

Correlation DPS with CP/P = 0.565

Correlation EPS/P with CP/P = -0.359

For Enat bank the correlation between DPS and share price is moderate and the bizarre association between EPS and share price was seen.

Table 16 Dividend, EPS and Share price of Hibret Bank

HIBRET BANK, Par=100								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	253,102,292	9,433,820	26.82925	0.268292	29.82	0.2982	179	1.79
2016	236,244,637	10,451,795	22.60326	0.226033	32.44	0.3244	150	1.5
2017	262,060,629	15,576,000	16.82464	0.168246	24.95	0.2495	112	1.12
2018	304,212,000	16,208,000	18.76925	0.187692	35.39	0.3539	125	1.25
2019	366,298,000	19,194,000	19.08398	0.19084	39.13	0.3913	128	1.28
2020	389,637,000	29,998,000	12.98877	0.129888	29.79	0.2979	100	1
Sum	1,811,554,558	100,861,615	117.10	1.171	191.52	1.915	794	7.940
Mean	301,925,760	16,810,269	19.52	0.195	31.920	0.319	132	1.323

Source (from annual report of Hibret Bank, 2015-2020)

Correlation DPS with CP/P = 0.990

Correlation EPS/P with CP/P = 0.093

With the preliminary test, no significant associations are observed between EPS and share price.

But there is very strong association between dividends and share price at Hibret Bank.

Table 17 Dividend, EPS and Share price of Lion International Bank

Lion International Bank, Par= 25								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	69,539,610	18,886,300	3.682	0.147	10.63	0.425	25.54	1.022
2016	63,774,682	21,849,735	2.919	0.117	11.97	0.479	25	1.000
2017	77,633,348	34,461,824	2.253	0.090	7.79	0.312	25	1.000
2018	198,191,000	51,757,086	3.829	0.153	7.55	0.302	26.52	1.061
2019	212,875,000	56,740,421	3.752	0.150	9.5	0.380	26.01	1.040
2020	356,450,000	76,469,679	4.661	0.186	8.41	0.336	31.07	1.243
Sum	978,463,640	260,165,045	21.096	0.844	55.85	2.234	159.140	6.366
Mean	163,077,273.33	43,360,840.76	3.516	0.141	9.308	0.372	26.523	1.061

Source (from annual report of Lion International Bank, 2015-2020)

Correlation DPS with CP/P = 0.811

Correlation EPS/P with CP/P = -0.364

For Lion International Bank DPS and share price are strongly correlated but EPS and share price shows week correlation.

Table 18 Dividend, EPS and Share price of Nib Bank

Nib Bank, Par= 500								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	173,007,785	1,844,560	93.794	0.188	137	0.274	625	1.250
2016	231,895,045	2,072,940	111.868	0.224	129	0.258	745	1.490
2017	377,311,000	3,313,685	113.864	0.228	149	0.298	760	1.520
2018	386,133,000	3,842,187	100.498	0.201	134	0.268	670	1.340
2019	332,077,000	4,680,175	70.954	0.142	154	0.308	500	1.000
2020	490,309,000	6,286,922	77.989	0.156	166	0.332	520	1.040
Sum	1,990,732,830	22,040,467	568.967	1.138	869	1.738	3,820	7.640
Mean	331,788,805	3,673,411	94.828	0.190	144.833	0.290	636.667	1.273

Source (from annual report of Nib Bank, 2015-2020)

Correlation DPS with CP/P = 0.997

Correlation EPS/P with CP/P = -0.675

In the case of Nib Bank, the correlation between DPS and share price is 0.997 which shows that the variables are positively and very strongly correlated and the correlation between EPS and share price is -0.675, these shows that the variables are negatively correlated and their association is moderate.

Table 19 Dividend, EPS and Share price of Oromia International Bank

Oromia International Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	38,355,141	456,999	83.928	0.084	364	0.364	1680	1.680
2016	23,039,805	600,767	38.351	0.038	310	0.310	1050	1.050
2017	42,179,270	782,924	53.874	0.054	278	0.278	1080	1.080
2018	39,443,000	1,380,390	28.574	0.029	525	0.525	1000	1.000
2019	54,276,000	1,994,259	27.216	0.027	374	0.374	1000	1.000
2020	128,491,000	2,689,203	47.780	0.048	320	0.320	1200	1.200
Sum	325,784,216	7,904,542	279.723	0.280	2,171	2.171	7,010	7.010
Mean	54,297,369.33	1,317,423.69	46.62	0.05	361.83	0.36	1,168.33	1.17

Source (from annual report of Oromia International Bank, 2015-2020)

Correlation DPS with CP/P = 0.937

Correlation EPS/P with CP/P = -0.142

In the case of Oromia International Bank, the association between DPS and share price is very strong but the association between EPS and share price is very week.

Table 20 Dividend, EPS and Share price of Wegagen Bank

Wegagen Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	97,051,058	1,083,336	89.585	0.090	244	0.244	1,050	1.050
2016	108,362,911	1,268,978	85.394	0.085	222	0.222	1,050	1.050
2017	137,142,000	1,412,989	97.058	0.097	273	0.273	1,200	1.200
2018	160,074,000	1,630,592	98.169	0.098	365	0.365	1,200	1.200
2019	150,521,000	2,425,637	62.054	0.062	256	0.256	1,000	1.000
2020	186,180,000	2,657,879	70.048	0.070	313	0.313	1,020	1.020
Sum	839,330,969	10,479,409.891	502.309	0.502	1,673	1.673	6,520	6.520
Mean	139,888,494.833	1,746,568.315	83.718	0.084	278.833	0.279	1,086.667	1.087

Source (from annual report of Wegagen Bank, 2015-2020)

Correlation DPS with CP/P = 0.858

Correlation EPS/P with CP/P = 0.520

For Wegagen Bank, the association between DPS and share price is very strong and since the correlation between EPS and share price is 0.52 the association between EPS and share price is moderate.

Table 21 Dividend, EPS and Share price of Zemen Bank

Zemen Bank, Par= 1000								
Year	TDS	WANS	DPS	DPS/P	EPS	EPS/P	CP	CP/P
2015	95,854,115	480,273	199.583	0.200	320	0.32	1,330	1.330
2016	114,853,634	552,494	207.882	0.208	367	0.367	1,385	1.385
2017	152,031,000	689,161	220.603	0.221	386	0.386	1,470	1.470
2018	197,727,000	947,626	208.655	0.209	286	0.286	1,391	1.391
2019	190,766,000	1,215,503	156.944	0.157	398	0.398	1,046	1.046
2020	350,088,000	1,599,835	218.827	0.219	462	0.462	1,458	1.458
Sum	1,101,319,749	5,484,892	1,212.49	1.212	2,219	2.219	8,080	8.080
Mean	183,553,291.50	914,148.61	202.08	0.20	369.83	0.37	1,346.67	1.35

Source (from annual report of Zemen Bank, 2015-2020)

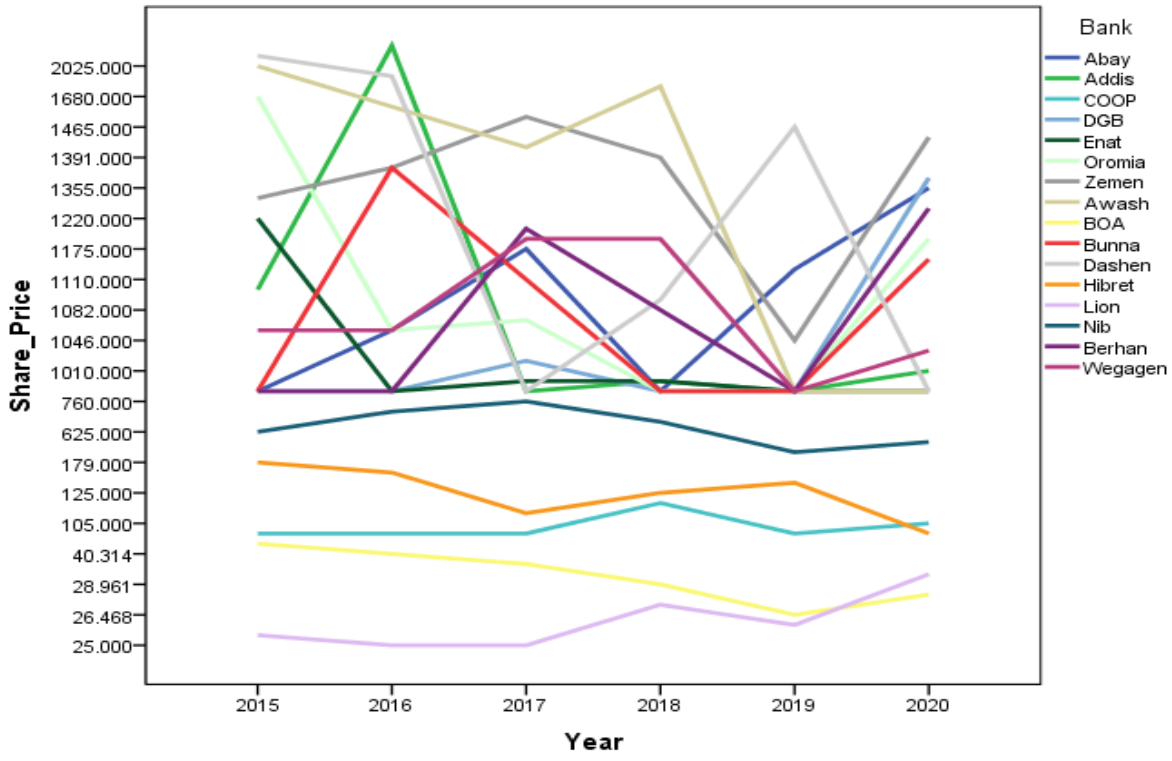
Correlation DPS with CP/P = 0.999

Correlation EPS/P with CP/P = 0.016

With the preliminary test, no significant associations are observed between EPS and share price. But there is very strong association between dividends and share price at Zemen Bank.

Next displayed is a chart portraying the share prices to help evaluate the premiums set

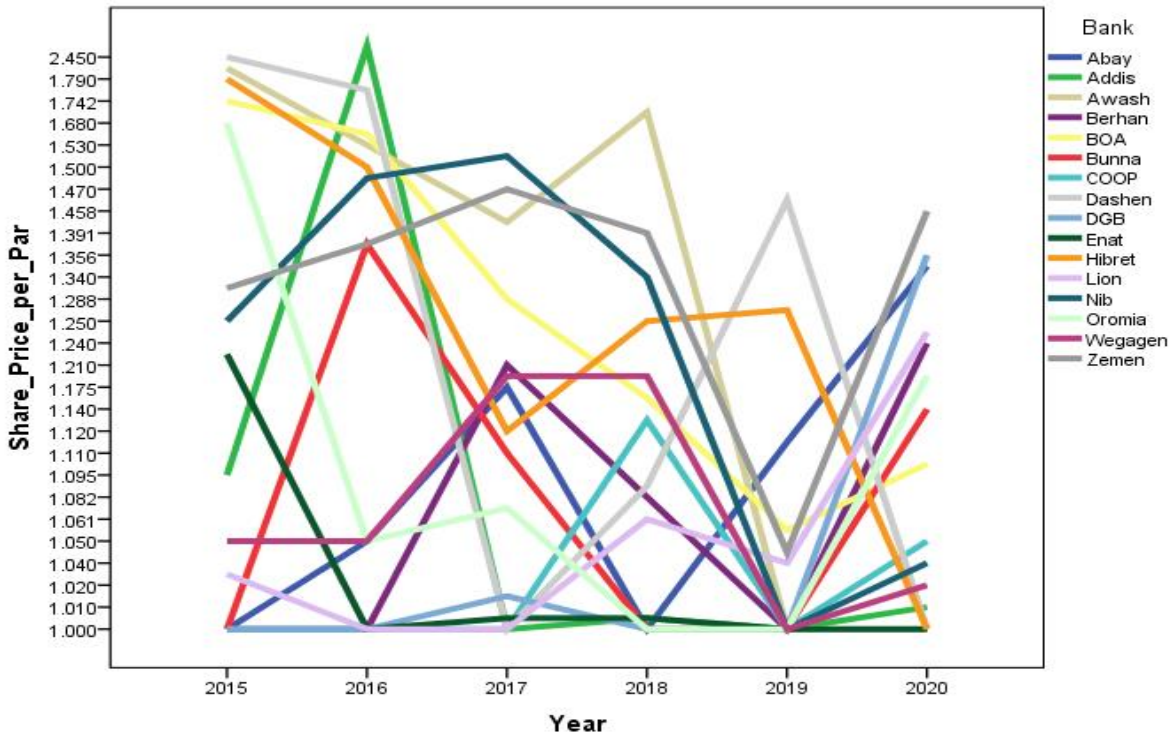
Figure 2 The share prices of all the sixteen banks for the years 2015-2020



Source: SPSS 20 output

The share price is declining in the case of Addis international bank, Bank of Abyssinia, Dashen bank, Enat bank, Hibret bank, Nib international bank and Oromia international bank but uprising in the case of Addis international bank, Cooperative bank of Oromia, Berhan bank, Bunna international bank, Debub Global bank, Lion international bank, Oromia international bank and Zemen bank.

Figure 3 Share price per par of all the sixteen banks for the years 2015-2020

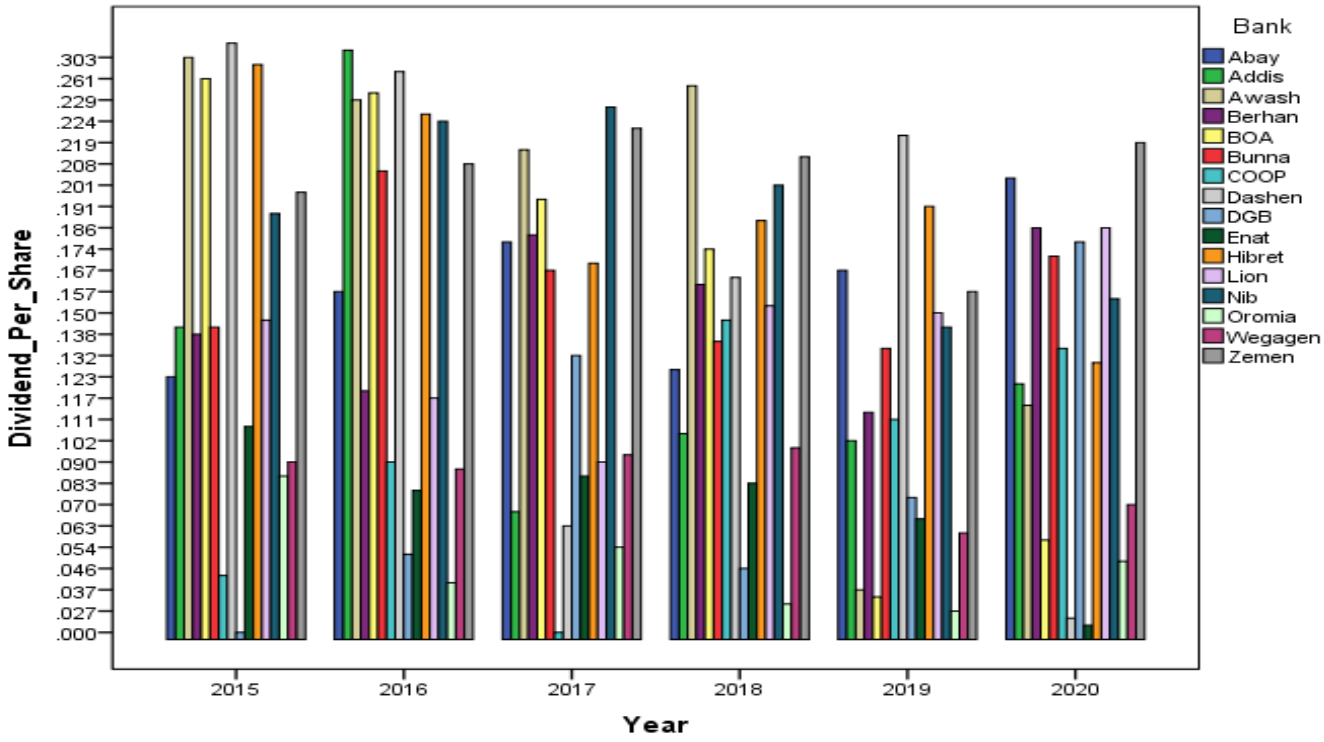


Source: SPSS 20 output

The relationship between the previous variables with the data from the sixteen banks is given in the appendix. The table is the combined presentation of the previous column headings for the three banks with some measures of central tendency and measures of variation. The 10th, 25th, 50th, 75th and 90th percentiles for each column are also calculated.

The database of the three banks is planned for a period of six years with 18 cases (combination of dividends / earnings per share and share price). This helps to even out the differences and watch the general movement of variables (dividend and earnings per share for the stock price) across the industry. Below is a graph showing Dividends per share for three banks. Earnings per share are displayed directly below the graphic to make it easier to see relationships.

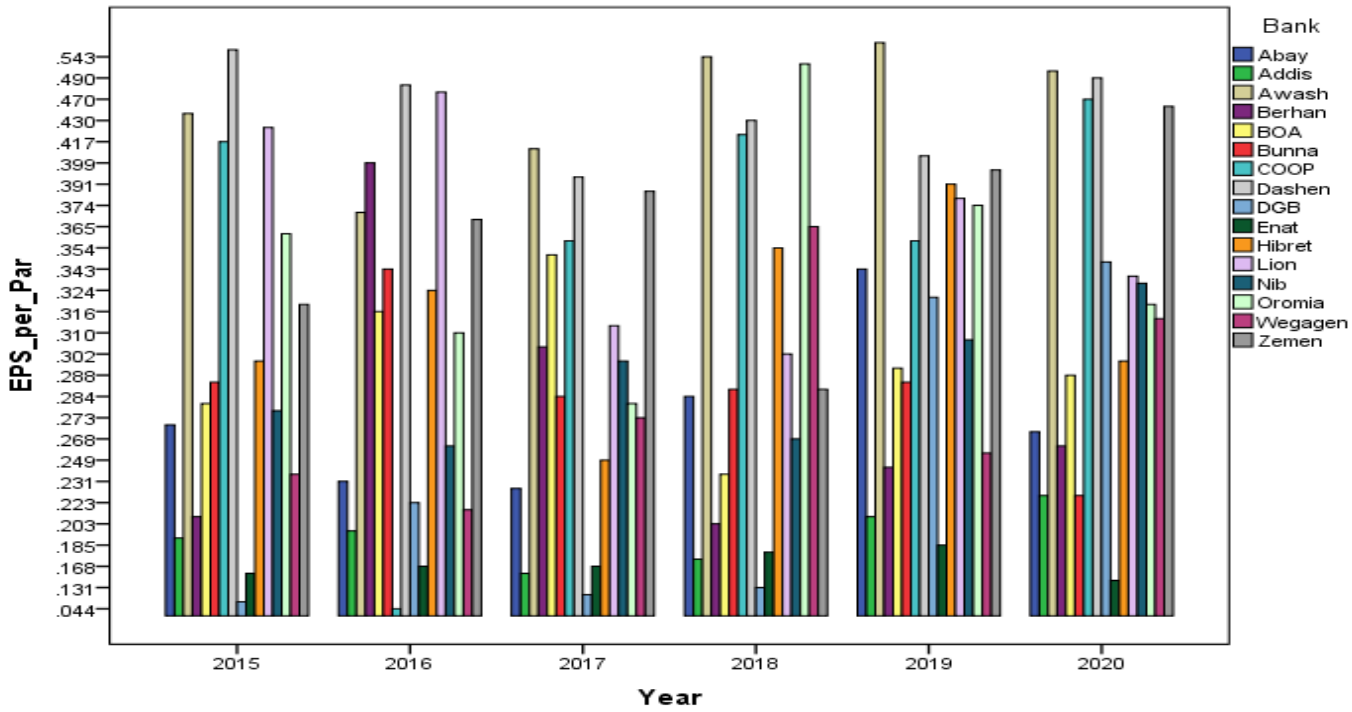
Figure 4 Dividend per Share for sixteen banks and for six years (stated as percentage of par value)



Source: SPSS 20 output

In the year 2015 and 2016 Awash, BOA, Dashen Bank & Hibret was paying the high dividend per share per par but in 2016 in addition to the above four banks' Addis, Berhan, Nib and Zemen was paying high dividend per share per par. In 2017 Awash, BOA, Nib and Zemen was paying high dividend per share per par. In 2018 Awash and Nib were paying high dividend per share per par. In 2019 Dashen and Hibret was paying high dividend per share per par were as in 2020 Abay and Zemen were paying high dividend per share per par.

Figure 5 Earning per share for sixteen banks and for six year (stated as percentage of par value)



Source: SPSS 20 output

Over the years, Awash and Dashen achieved higher earnings per share than any other bank in the study.

Table 22 Correlation matrix of Dividends and EPS with Share price

	Dividend per Share	Dividend per Share per Par	EPS	EPS per Par	Share Price	Share Price per Par
Dividend Per share	1					
Dividend Per Share per par	0.648**	1				
EPS	0.653**	0.114	1			
EPS per Par	0.170	0.257*	0.492**	1		
Share Price	0.853**	0.274	0.802**	0.720	1	
Share Price per Par	0.596**	0.814**	0.217	0.278**	0.446**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS 20 output

The aggregate correlation matrix for all the headings is presented in Table 22 above. (The grand table where the main key figures are calculated can be found in the appendix). As can be seen, dividends and share prices are strongly correlated. But when it comes to share prices per share, they exhibit a moderate relation. The same goes for the relationship between EPS and the share price; it is a strong statistically significant association. Again, with the share prices stated in terms of par, the association becomes weak.

The significance tests of the correlation coefficients are discussed in the appendices. So far, there is no strong association as to the real measures of dividends (dividends per share expressed as percentages of par) and share prices (share prices per par values).

With unclear associations and varied significances, the null hypothesis could not be rejected. The only thing that can be said is crude dividends and EPS are strongly correlated with share prices.

Next displayed is the association between the percent change in dividends and percent change in share prices.

Table 23 percentage change in dividends and percentage change in share prices during each year.

	Abay Bank		Addis Int Bank		Awash Bank		Berhan Bank	
Year	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp
2016	0.752	0.050	2.166	1.247	0.044	-0.244	0.124	0.000
2017	0.461	0.119	-0.727	-0.593	0.153	-0.059	1.414	0.210
2018	0.293	-0.149	1.394	0.005	0.348	0.201	0.381	-0.106
2019	0.724	0.115	0.139	-0.005	-0.799	-0.422	-0.204	-0.076
2020	0.548	0.215	0.456	0.010	3.036	0.000	0.909	0.240
	BOA		**Bunna int Bak**		**COOP**		**Dashen Bank**	
Year	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp
2016	0.063	-0.074	0.690	0.385	1.626	0.000	-0.269	-0.288
2017	0.307	-0.201	0.641	-0.199	-1.000	0.000	-0.588	-0.427
2018	0.421	-0.100	0.081	-0.099	0.000	0.130	1.927	0.090
2019	-0.780	-0.086	0.360	0.000	0.110	-0.115	0.552	0.344
2020	0.904	0.037	0.713	0.140	0.646	0.050	-0.858	-0.317
	DGB		**Enat Bank**		**Hibret Bank**		**Lion int Bak**	
Year	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp
2016	0.000	0.000	0.053	-0.180	-0.067	-0.162	-0.083	-0.021
2017	2.212	0.012	0.507	0.005	0.109	-0.253	0.217	0.000
2018	-0.035	-0.012	0.269	0.000	0.161	0.116	1.553	0.061
2019	0.291	0.000	0.014	-0.005	0.204	0.024	0.074	-0.019
2020	2.095	0.356	-0.812	0.000	0.064	-0.219	0.674	0.195
	Nib int Bank		**Oromia int Bank**		**Wegagen Bank**		**Zemen Bank**	
Year	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp	%ch D	%ch Sp
2016	0.340	0.192	-0.399	-0.375	0.117	0.000	0.198	0.041
2017	0.627	0.020	0.831	0.029	0.266	0.143	0.324	0.061
2018	0.023	-0.118	-0.065	-0.074	0.167	0.000	0.301	-0.054
2019	-0.140	-0.254	0.376	0.000	-0.060	-0.167	-0.035	-0.248
2020	0.476	0.040	1.367	0.200	0.237	0.020	0.835	0.394

Correlation between the percent change in dividends and share prices is 0.577. It can be said there is a moderate association here. (If sixteen rows can be considered enough to calculate the Pearson's correlation).

Again, there is no enough evidence to reject the null hypothesis. Accordingly, it is now the right time to see how much the "real" prices should be for these shares of stock.

Table 24 the share prices during each period. (Both the model output with discount rate set by the banks and actual prices registered are shown)

	Abay Bank		**Addis Int Bank**		**Awash Bank**		**Berhan Bank**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	1049.080	1,000	2328.028	1,095	1365.739	2,025	932.914	1000
2016	1174.005	1,050	894.885	2,460	1285.617	1,530	1158.933	1000
2017	979.190	1,175	929.526	1,000	1544.707	1,440	994.362	1210
2018	1113.930	1,000	923.126	1,005	805.335	1,730	987.577	1082
2019	1353.962	1,115	947.371	1,000	864.891	1,000	1782.412	1000
	BOA		**Bunna int Bak**		**COOP**		**Dashen Bank**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	39.611	43.547	1331.384	1,000	90.793	100	1659.988	2450
2016	31.631	40.314	1067.546	1,385	83.333	100	879.412	1745
2017	28.456	32.192	950.192	1,110	106.409	100	1036.993	1000
2018	23.315	28.961	947.541	1,000	92.605	113	1393.773	1090
2019	24.652	26.468	1096.010	1,000	98.579	100	847.904	1465
	DGB		**Enat Bank**		**Hibret Bank**		**Lion int Bak**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	897.397	1,000	948.330	1,220	145.045	179	22.884	25.54
2016	975.776	1,000	957.128	1,000	108.256	150	22.338	25
2017	892.228	1,012	955.772	1,005	120.814	112	24.876	25
2018	916.025	1,000	937.114	1,005	123.600	125	24.395	26.52
2019	1307.449	1,000	887.990	1,000	94.949	128	29.288	26.01
	Nib int Bank		**Oromia int Bank**		**Wegagen Bank**		**Zemen Bank**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	729.932	625	886.279	1680	970.090	1,050	1301.055	1,330
2016	744.411	745	923.350	1050	1108.218	1,050	1380.873	1,385
2017	656.358	760	837.601	1080	1109.167	1,200	1306.588	1,470
2018	486.374	670	836.495	1000	907.428	1,200	982.557	1,391
2019	509.403	500	1016.108	1000	931.347	1,000	1369.621	1,046

The dividend discount model is applied for the valuation of the shares and the actual clearing prices registered are stated along with those calculated prices in Table 24 above.

Since the model, $\boldsymbol{P_0 = \frac{D_1+P_1}{(1+r)}}$ requires the use of next year's price, analysis was done in retrospect for the years 2015-2019 only.

If investors require the average of 19.58% return as claimed by the national bank, the prices of shares of these banks would have been the figure on the "calculated price" column in the above table. It can be said that all the three banks have set their share price higher than the ideal price.

The previous explanation for the weak correlation between dividends and share prices comes again as management sets the prices for many other reasons than for the parity of investment (risk taking) and return.

A better approximation is to discount by using the equation $\boldsymbol{Pv = \frac{DIV1}{r-g}}$ **(**it is better explained in the appendix section)

Table 25 The share price during each period using the formula $\boldsymbol{Pv = \frac{DIV1}{r-g}}$

	Abay Bank		**Addis Int Bank**		**Awash Bank**		**Berhan Bank**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	823.249	1,000	1095.025	1,095	2022.462	2,025	921.081	1000
2016	1048.542	1,050	2458.964	2,460	1527.142	1,530	801.619	1000
2017	1173.634	1,175	526.871	1,000	1439.167	1,440	1210.980	1210
2018	845.682	1,000	806.572	1,005	1730.554	1,730	1082.370	1082
2019	1112.736	1,115	786.253	1,000	248.478	1,000	746.875	1000
2020	1354.264	1,355	932.011	1,010	759.867	1,000	1239.212	1240
	BOA		**Bunna int Bak**		**COOP**		**Dashen Bank**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	43.547	43.547	949.596	1,000	31.111	100	2875.271	2450
2016	40.314	40.314	1382.235	1,385	68.861	100	1742.853	1745
2017	32.193	32.192	1111.899	1,110	0.000	100	419.639	1000
2018	28.961	28.961	909.532	1,000	113.005	113	1089.421	1090
2019	5.468	26.468	888.394	1,000	85.588	100	1464.360	1465
2020	9.437	27.437	1138.850	1,140	102.267	105	165.747	1000
	DGB		**Enat Bank**		**Hibret Bank**		**Lion int Bak**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price

2015	0.000	1,000	1218.611	1,220	178.862	179	24.547	25.54
2016	398.072	1,000	879.998	1,000	150.688	150	19.459	25
2017	1012.383	1,012	935.687	1,005	112.164	112	15.018	25
2018	351.474	1,000	918.536	1,005	125.128	125	25.528	26.52
2019	566.009	1,000	738.177	1,000	127.226	128	25.012	26.01
2020	1356.382	1,356	117.031	1,000	86.592	100	31.075	31.07
	Nib int Bank		**Oromia int Bank**		**Wegagen Bank**		**Zemen Bank**	
Year	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price	Calculated Price	Actual Price
2015	625.290	625	1678.567	1680	597.236	1,050	1330.550	1,330
2016	745.785	745	767.0134	1050	569.2923	1,050	1385.881	1,385
2017	759.097	760	1077.481	1080	647.0539	1,200	1470.688	1,470
2018	669.988	670	571.476	1000	654.4618	1,200	1391.034	1,391
2019	473.026	500	544.3224	1000	413.6948	1,000	1046.294	1,391
2020	519.925	520	955.6065	1200	466.989	1,020	1458.850	1,458

As can be seen from Table 25 above the ideal price and actual price are nearly equal.

4.2. Testing assumptions of ordinary linear regression model

i. Heteroskedasticity Test

Table 26 Heteroskedasticity Test

Heteroskedasticity Test: White

F-statistic	529.3979	Prob. F(5,90)	0.2859
Obs*R-squared	92.84325	Prob. Chi-Square(5)	0.1608
Scaled explained SS	56.63686	Prob. Chi-Square(5)	0.9399

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 02/11/22 Time: 11:26
Sample: 1 96
Included observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.95E-25	1.15E-26	60.62708	0.0000
DPS^2	5.93E-31	8.46E-31	0.701028	0.4851
DPS*EPS	7.45E-30	5.93E-31	12.55945	0.0000
DPS	-2.03E-27	2.68E-28	-7.595962	0.0000
EPS^2	5.64E-30	3.03E-31	18.59174	0.0000
EPS	-4.09E-27	1.67E-28	-24.41689	0.0000

R-squared	0.967117	Mean dependent var	2.41E-25
Adjusted R-squared	0.965290	S.D. dependent var	2.76E-25
S.E. of regression	5.14E-26	Sum squared resid	2.38E-49
F-statistic	529.3979	Durbin-Watson stat	1.564441
Prob(F-statistic)	0.000000		

Source: E-views output

Heteroscedasticity means unequal scatter of residuals. ordinary least squares (OLS) regression assumes that all residuals are drawn from a population that has a constant variance (homoscedasticity). In the above table p-values of F-statistic (0.2859) and Chi square (0.1608) are greater than 0.05. Therefore, we don't reject the H_0 that states residuals are not heteroscedastic, in other words the residuals are homoscedastic.

ii. Autocorrelation Test

Table 27 Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	23.30963	Prob. F(2,91)	0.0000
Obs*R-squared	32.52051	Prob. Chi-Square(2)	0.0000

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 02/11/22 Time: 11:42
Sample: 1 96
Included observations: 96
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.287102	34.09276	-0.037753	0.9700
DPS	0.274807	0.302543	0.908324	0.3661
EPS	-0.126123	0.163353	-0.772089	0.4421
RESID(-1)	0.518811	0.105611	4.912463	0.0000
RESID(-2)	0.115372	0.105349	1.095142	0.2763

R-squared	0.338755	Mean dependent var	-1.95E-13
Adjusted R-squared	0.309690	S.D. dependent var	227.3160
S.E. of regression	188.8653	Akaike info criterion	13.37062
Sum squared resid	3245980.	Schwarz criterion	13.50418
Log likelihood	-636.7899	Hannan-Quinn criter.	13.42461
F-statistic	11.65481	Durbin-Watson stat	1.987550
Prob(F-statistic)	0.000000		

Source: E-views output

As shown in the above table, p-values are less than 0.05. Thus, we reject the H_0 that states "*There is no serial correlation"* In other words, there is autocorrelation problem.

iii. Multicollinearity Test

Table 28 Variance Inflation Factors

Variance Inflation Factors
Date: 02/11/22 Time: 11:43
Sample: 1 96
Included observations: 96

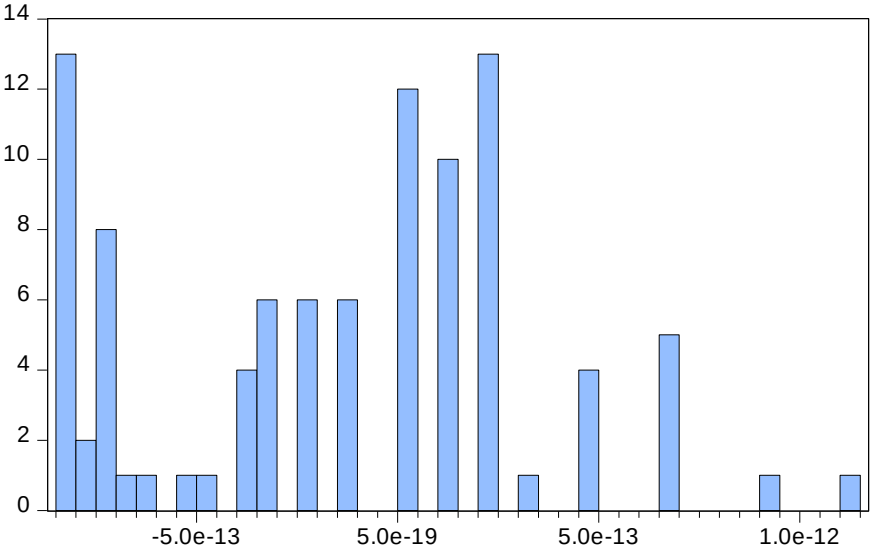
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1719.304	3.126967	NA
DPS	0.130205	4.151718	1.743151
EPS	0.038644	5.264774	1.743151

Source: E-views output

The centered VIF less than 10 is acceptable in this model as can be seen from the above table, DPS and EPS have value less than 10. So, they have no multicollinearity, The null hypothesis is not rejected for this model. In other words, there is no some multicollinearity.

iv. Normality Test

Figure 6 Histogram Normality Test



Series: Residuals	
Sample 1 96	
Observations 96	
Mean	-1.47e-13
Median	-1.14e-13
Maximum	1.14e-12
Minimum	-8.17e-13
Std. Dev.	4.71e-13
Skewness	0.180374
Kurtosis	2.401195
Jarque-Bera	1.954827
Probability	0.376283

Source: E-views output

Here in case of this research, the p-value of JB is 0.376283 which greater than 0.05. thus, we do not reject the H_0. In other words, there is normal distribution.

4.3. In-depth interview result

As stated in chapter three, apart from the secondary data review, this study employed in-depth interviews with bank officials. The in-depth interview was conducted with bank financial managers. These financial managers were from. The interview questions were unstructured and focused on dividend policy, share price and decisions relative to investment and financing decisions, view towards dividend policy, and the main factors that affect the payout policy of the company.

According to the interview the banks follow strict dividend policy and the foundation of the policy were National Bank regulation, commercial code and internal codes. Most of the banks don't follow strict payout ratio, payout ratio is calculated by dividing DPS by EPS or it can also be calculated by dividing Dividend paid by net income. Whan establishing payout ratio are two steps are followed: 1st annual profit or loss shall be determined. 2nd level of capital shall be identified if it needs injection or capital buffer, on hand investment or near future investment shall be

considered, level of cash on hand and liquidity shall be considered and also estimated credit risk shall be considered.

Before dividends are declared banks consider the economic factor, national bank regulation, retained earnings, capital adequacy ratio, liquidity ratio and estimated total risk.

A share price indicates an amount it would cost an investor to acquire share in a company. The price is a reflection of the company's value, what the public will be willing to buy to get part ownership. In a more dynamic markets, where the capital market, the price of a listed company is an indication of different factors including the future outlook of the economy, sector, the business, the public perception etc. As a result, it can rise and fall based on the different factors mentioned above. Since share price information is available in the market for a listed company, it would be relatively easy for an investor to estimate the price of share in a company via by with similar companies in a sector. However, in a market like ours, the approach we apply to determine the price of shares is mainly based on current and historical financial records and experience in the market.

According to the interview there are different approaches to determine price of shares: the net asset approach, dividend discount model and market approaches. But most of the banks apply the first two approaches. The market-based approach, may not reflect a more relevant picture of the price of the share, because on one hand, the share were sold due to obligatory events of NBE and the Court, and on the other hand, the number of shares sold in such manner is insignificant to reflect the overall price of the bank's share.

4.4. Regression Result

This section presents the regression result of random effect model used to examine the determinants of share price of the private commercial banks in Ethiopia. Accordingly, the regression result was done and coefficients of the variables were estimated via E-Views 10 software.

Accordingly, table 29 below presents the result of regression model made to examine the impact of explanatory variables on share price of private Commercial banks in Ethiopia. Share price (CP) is dependent variable whereas Dividend per share (DPS) and Earnings per share (EPS) are explanatory variables. Thus, the regression result in the following table demonstrates both coefficients of explanatory variables and corresponding p-values as follows:

Table 29 Regression Table

Dependent Variable: CP
Method: Least Squares
Date: 02/11/22 Time: 11:55
Sample: 1 96
Included observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	173.8664	41.46450	4.193139	0.0001
DPS	3.704963	0.360839	10.26764	0.0000
EPS	1.495818	0.196582	7.609145	0.0000

R-squared	0.832596	Mean dependent var	882.3444
Adjusted R-squared	0.828996	S.D. dependent var	555.5809
S.E. of regression	229.7473	Akaike info criterion	13.74259
Sum squared resid	4908894.	Schwarz criterion	13.82272
Log likelihood	-656.6442	Hannan-Quinn criter.	13.77498
F-statistic	231.2714	Durbin-Watson stat	0.861228
Prob(F-statistic)	0.000000		

Source: E-views output

Estimation Equation:
==========
CP = C(1) + C(2)*DPS + C(3)*EPS

Substituted Coefficients:
==========
CP = 173.866382405 + 3.7049633287*DPS + 1.49581769489*EPS

Interpretation

The adjusted R-squared tells us how successful the model is in prediction. A model with higher adjusted R-square is better. In very poor model R square is close to zero. In the case of the research model, adjusted R-squared is found to be 0.83 (83%) which implies that 83% of changes in Share price (CP) are explained by the changes in the independent variables (DPS and EPS).

The F-squared tells us the combined effect of explanatory variables on the dependent variable. In the research, the estimated value of F-statistic is 231.27. It means the independent variables: DPS and EPS jointly increase Share price (CP) by 231.27.

In this model the value of Prob (F-statistic) is 0.0000 lower than 0.05. The conclusion from the result is that the independent variables: DPS and EPS jointly have a significant effect on the Share

price (CP) at 5% significance level. In other words, the null hypothesis that states there is no relationship between Share price and the two independent variables is going to be rejected.

4.4.1. Determinants of share price in Ethiopian private commercial banks.

Taking into consideration that the basic aim of this study, to examine the determinants of share price of private commercial banks in Ethiopia, the estimation results of Regression Model that presents the impact of explanatory variables on share price is discussed as follows:

- **Dividend per share (DPS) and Share price (CP)**

$H0_1$: There is no significant relationship between DPS and share price

The regression result of a random effect model in the above table is inconsistent with the hypothesis developed by the researcher. The study hypothesized that there is a no relation between DPS and share price of private commercial banks. Contrary to the hypothesis, the estimated coefficients and test statistics of DPS was 3.7049 and 0.0000 respectively. Since estimated value of the coefficient of DPS is 3.7049 and it is interpreted as if DPS increase by 1 unit, share price will increase by 3.7049 keeping other things constant and since the test statistics is 0.01, change on DPS has significant effect in share price. This is contrary to the bird in the hand theory of dividend policy states that, one alternative view about the effect of dividend policy on a firm's value is that dividends increase firm value Gordon and Shampiro (1956) in other word high dividend payout ratio will maximize firms value by maximizing DPS a firm can maximize its dividend payout ratio. Therefore, data did not support hypothesis to be is rejected and the alternative hypothesis is accepted. Thus, DPS has a positive and significant at 1% level significance with share price in private banks of Ethiopia during the study period.

- **Earnings per share (EPS) and Share price (CP)**

$H0_2$: There is no significant relationship between EPS and share price

The regression result in this study is inconsistent with the hypothesis developed by the researcher. The study hypothesized that there is a no significant relationship between EPS and share price of private commercial banks in Ethiopia. Contrary to the hypothesis, the estimated coefficients and test statistics of EPS were 1.4958 and 0.0000 respectively. This shows a positive and statistically significant at 1% level of significance impact of EPS on the amount of share price. The estimated value of the coefficient of EPS is 1.4958 and it is interpreted as if EPS increase by 1 unit, share price will increase by 1.4958 keeping other things constant. Therefore, this data supports to reject

the null hypothesis and to accept the alternative hypothesis that there is a significant relationship between growth and dividend payout, which is positively and statistically significant at 10% significance level.

4.4.2. Summary of the analysis

Table 30 presents the null hypotheses of the relationship between Ethiopian private commercial banks share price and determinant factors. As indicated in the table above both null hypotheses are rejected.

Table 30 Summary of analysis

	Hypothesis	**Status**	**Expected Sign (relation)**	**Actual Sign (relation)**
$H0_1$	There is no significant relationship between DPS and share price	Rejected	Positive	Positive
$H0_2$	There is no significant relationship between EPS and share price	Rejected	Positive	Positive

- The null hypothesis for DPS is rejected at 1% level of significance. So, it has significant relationship with share price with expected positive relationship.
- The null hypothesis for EPS is rejected at 1% level of significance. So, it has significant relationship with share price with expected positive relationship.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary

The question of optimal dividend payout ratio is the most debatable concern in the literature of finance. Previous studies conducted in the area, though resemble to agree, did not bring convergent results because of the context they were conducted and the underlying assumptions taken.

The ideas of dividend irrelevance and the views of both the leftists and the rightists were presented in the literature review part. Also discussed are the settlement of dividend policy and the valuation of common stock.

Chapter four goes on to finding any relationship between dividends and the share prices of three private banks in Ethiopia. A comparison was made to see whether share prices are correlated with dividends or Earnings per Share. The ideal share prices were also calculated by employing the dividend discount model.

5.2. Conclusion

Dividend policy is a very important issue because it determines what funds flow to investors and what funds are retained by the firm for future reinvestment. To this end, this study aimed at examining possible factors that could influence the dividend policy of Ethiopian private banks.

The main purpose of the study was to examine the relationship between share price and selected determinant factors of private commercial banks of Ethiopia and to what extent these factors determine on the bank's share price during the study period. Based on prior local and international studies, key explanatory variables were identified. These variables are dividend per share and earning per share. Sixteen Ethiopian private banks were taken as a sample six years (from 2015 to 2020) data was collected from audited financial report of the banks and national bank of Ethiopia annual report. Interview was also made from higher officials of banks.

The researcher conducted both OLS tests and panel data methodology with random effect model which was appropriate for the study.

The outcome of the study shows that both the determinant factors: dividend per share and earnings per share are statistically significant factors and positively related with share price.

The crude measures (dividends per share and EPS) are good predictors of stock prices. The high correlation coefficients are statistically significant at 99% confidence level.

According to the study Ethiopian private banks follow the high dividend increase share value theory (bird in the theory) this is because DPS and share price have significantly positive relationship i.e., when dividend increase DPS and share price will also increase then dividend and share price will have positive and direct relationship.

What explains the price of shares is left to management. The fact that such important decisions are made at the general meetings of shareholders made it somewhat haphazard.

As learned from the interviews with staff and management, in some banks, shareholders transfer stock certificates without letting the bank know the price paid for them. In such cases, the shares are considered as sold with par. This is one easy way of escaping capital gains tax.

The fact that there is no organized market for securities here makes it a difficult task to follow the month-by-month price movements. Management of corporations has to see the possible clearing prices for the shares and made important decisions based on the observed movements. It seems this is the only option it has at this point given the market participants and the obscure objective of value maximization.
Such and other factors surely hide the association between dividends and share prices even if there was some.

5.3. Recommendations

Finance professionals are responsible for helping investors and companies to make important decisions. Unjustified share prices (if it can be concluded from the investigation made) are results of misguided demand and supply of the share certificates. Hence, professionals should act towards the fair pricing of assets.

Researchers and fellow students of finance shall advance such studies with more corporations examined for many years possible and rigorous techniques developed.

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Appendices

Significance test for the correlation coefficients

Determination of Share value

Grand display of variables for the three banks (2015 – 2020 G.C.)

Interview guide used to collect primary data

Statistical significance test for the correlation coefficients

Two tailed Student t distribution is used as a test statistic.

Variables (Correlation between)	Coefficient of correlation	Coefficient of determination	t – value obtained
r(sh p/dps)	0.856**	0.732736	13.499
r(sh p p p/dps)	0.596**	0.355216	-11.371
r(sh p/dps p p)	0.274	0.075076	13.382
r(sh p p p/dps p p)	0.938**	0.879844	24.357
r(sh p/eps)	0.899**	0.808201	11.519
r(sh p p p/eps)	0.217	0.047089	-13.794
r(sh p/eps p p)	0.720	0.5184	13.378
r(sh p p p/eps p p)	0.278**	0.077284	17.303

** Correlation is significant at the 0.01 level

* Correlation is significant at 0.05 level

Table key:

• r (sh p/ dps) is correlation between share prices and dividends per share

• r (sh p p p/ dps) is correlation between share prices per par value and dividends per share

• r (sh p / dps pp) is correlation between share prices and dividends per share per par value

• r (sh p p p/ dps pp) is correlation between share prices per par value and dividends per share per par value

• r (sh p/eps) is correlation between share prices and EPS

• r (sh p p p/eps) is correlation between share prices per par value and EPS

• r (sh p/eps p p) is correlation between share prices and EPS per par value

• r (sh p p p/eps p p) is correlation between share prices per par value EPS per par value

Determination of Share Value

$$Value\ of\ share = \frac{EDPS}{CCE - DGR}$$

Where:

EDPS is the expected Dividend Per share

CCE is the Cost of Capital through weighted cost of capital of equity and debt (WACC)

DRG is the dividend growth rate

Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TDS	96	0.00	713459000.00	187902347.2396	151167981.42901
WANS	96	187623.39	118561667.00	10203688.3915	22225027.05263
DPS	96	0.00	431.29	100.8511	86.24676
DPS/P	96	0.00	0.43	0.1410	0.07696
EPS	96	4.40	632.00	223.8429	158.31177
EPS/P	96	0.04	0.63	0.3109	0.10879
CP	96	5.47	2458.96	773.5555	566.31904
CP/P	96	0.12	2.46	1.0566	0.43361
Valid N (listwise)	96				

Statistics: Grand display of variables for the six banks (2015 – 2020 G.C.)

This simple questionnaire is designed to obtain the necessary data solely for an academic study. There are open ended questions which allow you to express your views in whatever ways you like. The questions relate to dividend payouts and share prices.

Name: _____

Designation: _____

Company: _____

E-mail address: _____

Thank you in advance!

1. Does your bank follow a strict "dividend policy"? If so, state the foundations of the policy.

2. Does your bank follow strict payout ratio? If so, what percent?

3. How did you set the payout ratio? (Steps or the methods followed to establish the ratio)

4. What major factors does your bank consider before dividends are declared? (Any preconditions for dividends)

5. Is there any way of determining the share price? If so, please state the valuation techniques used.

6. Since there is no stock market in Ethiopia, it is obvious that any shareholder who wants to sell his/her holdings should bring the certificates to your bank and shares of stock are sold to an investor at a clearing price. Please list the "clearing prices" on sale of shares for each year.