Determinants of Dividend Policy of Insurance Companies in Ethiopia

Muhammed Nuredin

A Thesis Submitted to

The Department of Accounting and Finance

Presented in Partial Fulfilment of the Requirements for the Degree of Master of Science (Accounting and Finance)

Addis Ababa University

Addis Ababa, Ethiopia

June, 2012

Addis Ababa University

School of Graduate Studies

This is to certify that the thesis prepared by Muhammed Nuredin, entitled: *Determinants of Dividend Policy of Insurance Companies in Ethiopia* and submitted in partial fulfilment of the requirements for the degree of Degree of Master of Science (Accounting and Finance) compiles with the regulations of the University and meets the accepted standards with respect to originality and quality.

Signed by the Examining Committee:

Advisor	Signature	Date
Examiner	Signature	Date
Examiner	Signature	Date

Chair of Department of Graduate Program Coordinator

Abstract

Determinants of Dividend Policy of Insurance Companies in Ethiopia

Muhammed Nuredin

Addis Ababa University, 2012

This study seeks to find the determinants of dividend policy of insurance companies in Ethiopia. In order to achieve this objective, the study uses mixed research approach. Panel data covering nine-year period from 2003 – 2011 are analyzed for nine insurance companies. Also in-depth interview is conducted with company officials. The study analyses a range of determinants of dividend policy: Profitability, growth, Liquidity, Size and Leverage of the firm. The random effects technique has been applied to find out the most significant variables used by the insurance companies in making the dividend decisions. The results show that dividend decisions are relevant and profitability and liquidity are the statistically significant factors which positively influence dividend policy of insurance companies in Ethiopia. On the other hand, growth influences dividend policy negatively and significantly. Contrary to theoretical prediction, the study finds that size and leverage are insignificant in influencing the dividend policy of insurance companies in Ethiopia. The study provides evidence that profitability, liquidity and growth are the most important factors that affect dividend policy of insurance companies in Ethiopia. So, Ethiopian insurance companies' managers should give consideration to profitability, liquidity and growth when they set dividend policy.

Acknowledgements

First of all, I am heartily thankful to my advisor, Dr. Wollela Abehodie, whose encouragement, guidance, and support from the initial to the final level enabled me to develop an understanding of the subject and complete the thesis. Secondly, I would like to extend grateful acknowledgement to the officials of insurance companies for their understanding and for providing me with all the necessary information and documents required to carry out this study. Thirdly, financial support for my studies by the Addis Ababa University and Debre Birhan University is gratefully acknowledged. Lastly I am also indebted for my family, friends and to all those who helped me for the accomplishment of my study.

Table of contents

List of tables

List of figures

List of Acronyms

AGM	Annual General Meeting
CLRM	Classical Linear Regression Model
DPO	Dividend Policy
DW	Dublin Watson
EIC	Ethiopian Insurance Corporation
FEM	Fixed Effect Model
GCC	Gulf Co-operation Council
GRO	Growth
HP	Hypothesis
LEV	Leverage
LIQ	Liquidity
MOFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
NPV	Net Present Value
OLS	Ordinary List Square
PROF	Profitability
ROA	Return on Asset
REM	Random Effect Model
RQ	Research Question
SZ	Size

Chapter one

Introduction

Dividend policy is one of the major decisions in corporate finance. Dividend is an appropriation or distribution of profit to shareholders. Corporate dividend policy has been the concern of financial managers, and firms at large. Firms are faced with dilemma of sharing dividend to stockholders and retaining their earning with the view to reinvesting it back into the business so as to promote further growth of the business. As the business grows, then earning flow of the stockholders grows over time. The decision of the firm regarding how much earnings could be paid out as dividend and how much could be retained is the concern of dividend policy decision (Marfo-Yiadom and Agyei 2011).

Researchers have asserted that firms use dividends as mechanism for financial signaling to the outsiders regarding the stability and growth prospects of the firm. Paying out more cash dividends will tend to increase the price of the stock. However, increasing cash dividends means that less money is available for reinvestment. Reinvesting back fewer earnings into the business will lower the expected growth rate. Alternatively, earnings retained are the most important internal sources of financing the growth of the firm. In practice every firm follows some kind of dividend policy, which retains a portion of the net earning in such a manner that it will not constitute a threat to dividend payment (Chigazie 2010).

Even though many research conducted by a number of researchers, the issue of dividend policy determinants still remains unresolved. Berkly and Myers (2005) listed dividends issue as one of the top ten important unresolved issues in the field of advanced corporate

finance. Black and Scholes (1974) comprised it that dividends are the primary puzzle in the economics of finance. Black (1976, p.5) wrote that "the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just do not fit together".

Even now, researchers provide considerable attention and thought to solving the dividend puzzle, resulting in a large number of conflicting hypotheses, theories and explanations. Researchers have primarily focused on developed markets; however, additional insight into the dividend policy debate can be gained by an examination of developing countries, like Ethiopia which is currently lacking in the literature.

To this end, this study examines the determinants of divided policy of insurance companies in Ethiopia. This will not only add to existing literature but also it will serve as a guide to directors of insurance companies when fixing dividends.

The remaining parts of the chapter are organized as follows: section1.1 presents overview of Insurance Industry in Ethiopia; section1.2 deals with statement of the problems; section 1.3 presents the objective of the study; section 1.4 presents the research methods adopted; section1.5 deals with scope and limitation of the study; Section 1.6 is about significance of the study and finally section1.7 deals with organization of the paper.

1.1. Overview of Insurance Industry in Ethiopia

The Ethiopian insurance industry does not have a long history of development despite the country's long history of civilization. Schaefer (1992) indicated that the emergence of modern insurance in Ethiopia is traced back to the establishment of the Bank of Abyssinia in 1905. The Bank began to transact fire and marine insurance as an agent of a

foreign insurance company. Imperial Insurance Company was the first domestic private insurance company that was established in 1951. In the 1960s domestic private companies started to increase in number. In 1962, according to the survey of the Central Statistical Agency (CSA), there were 34 insurance companies in Ethiopia, of which two were domestic and the rest were foreign represented by agents. In other words, the origin of Ethiopia's insurance industry is linked to expatriates and foreign insurance companies (Zeleke, 2007).

Following the overthrow of the imperial regime by the Marxist Military government, private insurance companies were nationalized in 1975. A sole public insurance company was established under the name Ethiopian Insurance Corporation (EIC), which had a monopoly in the insurance industry for 19 years. Following the regime change in 1991, there was a shift to a market economy and a new insurance proclamation "Licensing and Supervision of Insurance", No. 86/1994, was issued in 1994. The law allowed private sector participation in the insurance business (Mihretu, 2010).

Then the total number of insurance companies, branches and their capital increased significantly. For example, during the period, 2004 to 2008, the total number of branches of insurance companies went up by 51 percent to reach 172 in 2008. Moreover the total capital of the insurance companies grew by 43 percent reaching Birr 582.1 million in 2008 (NBE, 2008). At the present, there are fourteen insurance companies in operation. Ethiopian Insurance Corporation (EIC) is state owned while the rest are private.

1.2. Statement of the problems

Dividend policy is controversial. Many doubtful reasons are given for why dividend policy might be important, and many of the claims made about dividend policy are economically illogical. Even so, in the real world of corporate finance, determining the most appropriate dividend policy is considered an important issue (Ross 2003, p.633).

Dividend policy has been the subject of considerable debate since Miller and Modigliani (1961) illustrated under the condition of perfect capital market and zero taxes, dividends were irrelevant. But, financial researchers and practitioners have disagreed with Miller and Modigliani's proposition and have argued that they based their proposition on perfect capital market assumptions; assumptions that do not exist in the real world. During the same time period Gordon (1962) and Walter (1963), proved dividend to be relevant for the valuation of the firm and hence the shareholders are seen to be not at all indifferent as to the payment of dividend and retention of profits.

The above debate has turned into much controversy after Black (1976) called it a "Puzzle" whose pieces do not fit together. Since then, the amount of theoretical and empirical research on dividend policy has increased dramatically (Baker, 1999). However, Allen et al. (2000, p.2499) concluded "Although a number of theories have been put forward in the literature to explain their pervasive presence, dividends remain one of the thorniest puzzles in corporate finance". Recently, Brealey et al. (2008) argued that even if numerous researchers have attempted to solve the "dividend puzzle" identified in Black (1976), but these studies have not yet arrived at an unequivocal solution. Research into dividend policy has shown not only that a general theory of

dividend policy remains elusive, but also that corporate dividend practice varies over time, among firms and across countries.

Moreover the empirical findings on dividend policy are inconclusive. Existing studies appear to focus on the dividend behaviours of companies in developed economies, but the evidence from developing economies is very limited. Therefore, examining dividend policies of firms in developing countries like Ethiopia will offer further insights into the factors that influence corporate dividend decision.

Regardless of the above fact, the financial statements of Ethiopian insurance companies reveal that a very limited amount of the sectors' returns are reinvested in the industry. That means much of the earning is paid as a dividend rather than retaining it for future growth (Smith and Chamberlain, 2009). In addition, despite many insurance companies are operating and expanding their branches continuously in Ethiopia, only their financial statement shows the lump sum figure about their financial performance and they pay dividend. To the knowledge of the researcher, no study to date provides a comprehensive analysis of the potential agency factors that impact insurance company dividend policy.

In sum, the above issues coupled with the gap in the literature call for research in the area of determinants of dividend policy. To this end, the present study provides insight into the factors that influence dividend policy in the Ethiopian insurance industry.

1.3. Objective of the study

In light of the problems stated in the preceding discussion, the intent of this concurrent mixed methods study is to examine possible factors that could influence the dividend policy of insurance companies in Ethiopia. In the study, a structured record review was adopted to gather quantitative data. At the same time, the view of company officials about the determinants of dividend policy was explored by using unstructured face to-face interviews with financial managers of insurance companies in Ethiopia.

In order to achieve the objective of the study stated above, the following research hypotheses (HP) were developed:

HP 1: *profitability has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 2: *Liquidity has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 3: *Growth has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 4: *Firm size has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 5: *Leverage has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*

In addition, the following research questions (RQ) were developed:

RQ1 *What are the determinants of insurance companies' dividend policy in Ethiopia?*

RQ2 *What views do Ethiopian insurance companies' officials have on the dividend-setting process?*

1.4. Research method adopted

To answer research questions, test hypotheses and achieve the broad objective, the study adopted a concurrent mixed method. The intent of using such a mixed method approach was to collect data that could not be obtained by adopting a single method and for triangulation so that the findings with a single approach could be substantiated with others wherever possible. Specifically, the research employed structured record reviews and in-depth interviews with financial managers to collect data. For structured record reviews, audited financial statements of nine insurance companies out of fourteen insurance companies that have operated for the fiscal year 2003-2011 were used. With regard to in-depth interviews, the study conducted interview with eight insurance companies' financial managers. Finally the study analyzed the results obtained from the above mentioned data sources jointly.

1.5. Scope and Limitation of the study

The finding of the research will be more fruitful, if it was conducted widely by including other depository, non depository institutions and other share companies in Ethiopia. The study was limited to examine possible factors that could influence the dividend decision for insurance companies in the insurance industry of Ethiopia over the period 2003-2011. In addition the dividend payout decision is influenced by external factors like absence of secondary market and financial system of a country, this study does not consider the

possible effect of absence of secondary market and financial system on dividend policy. Also the study only empirically examined firm specific factors (profitability, size, growth, liquidity and leverage). Finally the results of this study are not generalized to other sectors other than insurance sector.

1.6. Significance of the study

The study will have significance from various directions. First the study supplies evidence whether factors identified by previous studies are the same as the ones found to be determinants of dividend payout of insurance companies in Ethiopia. Second it enhance the stock of information we have about the determinants of dividend payout in insurance industry of Ethiopia and the study will be used as a reference for other researchers in this area. Finally managers of insurance companies will use the result of the study to review their dividend payout decision in line with the findings of the study.

1.7. Organization of the paper

The research report is organized in to five chapters. Chapter one is introduction where overview of the insurance industry in Ethiopia, statement of the problem, objectives of the study, research method adopted, scope and limitation, and significance of the study were presented. Chapter two is review of literature in which theories, empirical evidence and knowledge gap was identified. Chapter three is research methodology. Chapter four is results and discussion in which the obtained results were interpreted. Finally, Chapter five brings to an end the research with conclusion and possible recommendation.

Chapter two

Literature review

Dividend policy has been an issue of interest in financial literature. Different arguments and theories have been put forward to explain the different facts about dividend policy. This chapter therefore covers three broad topics that are related to dividends and determinants of dividend policy. Section 2.1 is about the theoretical review in which a number of theories that have been developed on dividend policy are presented. This is followed by a review of relevant empirical studies on determinants of dividend payout policy in section 2.2. Finally, conclusions on the literature review and knowledge gaps were presented in section 2.3.

2.1. Theoretical review

In discussing the meaning of dividend policy, it is important to define a dividend. Various definitions abound in the literature on the definition of dividend. A dividend is simply the money that a company pays out to its shareholders from the profits it has made (Doughty, 2000). Such payments can be made in cash or by issuance of additional shares as in scrip dividend. Davies and Pain (2002) defined it as the amount payable to shareholders from profit or distributable reserves.

Dividend policy is primarily concerned with the decisions regarding dividend payout and retention. Lasher (2000) described it as the practice adopted by managers in making dividend payout decisions. It details the amount of cash to be distributed to the shareholders and what is to be retained by the firm for further investment. It is a decision

that considers the amount of profits to be retained and that to be distributed to the shareholders of the firm (Watson and Head, 2004). The objective of a firm's dividend policy is to be consistent in the overall objective of maximizing shareholders wealth since it is the aim of every investor to get a return from their investment.

This section of the chapter discusses theories on dividend policy. Accordingly, section 2.1.1 presents the types of dividend policy. Then theories on explanations for paying dividends are presented in section 2.1.2.

2.1.1. Types of Dividend Policy

Theoretically, there are different types of dividend policies. These includes constant payout, progressive policy, residual policy, zero policy and non- cash policy.

Constant or fixed policy: The Company pays out a fixed amount of its profit after tax as dividend. Thus, the company maintains a fixed payout ratio of dividend. This type of policy allows the shareholders to clearly know the amount of dividend to expect from their investments in the company. However as noted by Watson and Head (2004), the policy could be traumatic to companies experiencing a volatile or fluctuating profit earning. This is because of the uncertainty of its profit. If there are viable capital projects, the policy can be chaotic.

Progressive policy: Payments of dividend is on a steady increase usually in line with inflation. This could result in increasing dividend in money terms. The firm uses the policy as a ratchet. Every effort is made to sustain the increase even though marginal. Seldom, the company may be constrained to cut down on dividend payout. This is to

enable it sustain its operations. This though is not a frequent action as it sends a wrong signal to investors. Firms operating this policy will opt to avoid paying dividends during the period rather than consistently cut down on the dividend (Kolb and Rodriguez, 1996).

Residual policy: Dividends are just what is left after the company determines the retained profits required for future investment. This policy gives preference to its positive NPV (Net Present Value) projects and paying out dividends if there are still left over funds available. Dividend becomes a circumstantial payment paid only when the investment policy is satisfied. There is a tendency therefore that this type of policy could give rise to a zero dividend structure. Firms may need to modify this policy to ensure that investors of the different clienteles are not chased out by a strict application of the policy (Kolb and Rodriguez, 1996).

Zero dividend policy: Some firms may decide not to pay dividend. This is especially common in newly formed companies that require capital to execute their projects. All the profit is thus retained for expansion of the business. Investors who prefer capital gains to dividends because of taxation will naturally be lured by this kind of policy. This type of policy is quite easy to operate and avoids all the costs associated with payment of dividends (Watson and Head, 2004).

Alternative policies to paying cash: In order to give shareholders a choice between dividends or new shares, the firm might choose to buy back shares. This is share or stock repurchase. This has a significant advantage in terms of tax to the shareholder. While the dividend is fully taxed just as ordinary income, the stock repurchase or buyback is not taxed until the shares are sold and the shareholder makes a profit or capital gain (Ross et

al. 2003). There is also the policy of stock dividends and splits. Shareholders are given additional shares in lieu of cash as dividend (Brealey et al. 1999).

2.1.2. Explanations for Paying Dividends

Dividend policy is possibly one of the most discussed and mindboggling subjects in corporate finance. Perhaps it is for that reason literature offers such an abundant amount of information and research on the matter. There are several theories as to why firms should pay dividends or not. These theories include the dividend irrelevancy theory, bird-in- hand theory, signalling theory, agency theory, Clientele effect, tax preference and life cycle theory.

Dividend irrelevancy theory

The dividend irrelevancy theory proposed by Miller and Modigliani (1961), argued that in a perfect market; one with independence of investment and dividend policies of firms, perfect capital markets, no taxes, perfect information, no transaction or flotation cost, markets are complete, and no agency costs or contracting cost associated with stock ownership, dividend payments will not affect firm value. The reason is that in the presence of perfect market conditions, investors can create their own dividends without cost. If investors want a dividend they can simply sell off some of their shares. Equally if investors are paid a dividend, which they do not want, they can merely use the dividend to purchase additional shares in the firm. So if investors can create their own dividend policy without incurring extra costs, dividends are indeed irrelevant. However the irrelevancy theory only holds, in such a perfect market, in which these seven assumptions

hold. Nevertheless markets are not perfect and taxes and transaction costs do exist. Even so this does not make the theory less important. The dividend irrelevance theory supplies a framework through which one can test the implications of a violation of any of the assumptions.

Bird in hand theory

Gordon (1959) presented the bird-in-hand or the uncertainty hypothesis. As the name indicates, the author argued that dividends minimize the uncertainty associated with deffered dividend payments. Further explanation for the bird in hand theory has been given by Gordon (1963) and Walter (1963), in which they concluded that investors always prefer cash in hand rather than a future promise of capital gain due to minimizing risk or lowering risk. Due to this preference, investors pay higher prices for a company's shares with cash dividends compared to a company that holds their profits when other factors are fixed (Baker and Powell, 1999).

Agency cost theory

Agency theory is based upon the separation of ownership and management in corporations. Owners of the firm delegate managers to act on their behalf. Jensen and Meckling (1976, p.308) define agency relationship as 'a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent'.

The main assumption of this theory is the conflict of interests between managers and owners. Such conflicts lead to agency costs (monitoring costs, other costs by the agent to assure the owners that there will be no harm to owner's interest, and finally any remaining loss from differences in agent actions and the owners actions compared to those if the owners take such actions). Stemming from this argument, agency theory stated that dividends act as a protection for investors because dividends reduce the excess cash available to managers after investment and operational activities. With the excess cash, managers may in good or bad faith invest it in less than desirable investment opportunities, which may have undesirable risk/return characteristics for the investors.

Signaling theory

Signaling hypothesis originates from the information asymmetry between managers and shareholders.Information signalling theory in the context of dividend policy was first introduced by Ross (1977), who created a theoretical model for dividend signalling. Signaling theory assumes that mangers typically have more information about the value of the firm's assets than outside agents. Managers therefore use dividend changes to communicate to the shareholders about the financial situation of the company. The information may reflect the strategies that the firm is employing in the short run or long run.

Signaling theory suggests that managers, who are expecting abnormal returns in the future, would be more willing to share the earnings with the shareholders, since they expect that in any way they will have enough cash flows to undertake all their projects with expected positive, high NPV. If managers predict to have losses or decreasing

profits, they would prefer to keep today's surplus for the future. Further the explanation regarding the signalling theory given by Bhattacharya (1979) and John and Williams (1985), dividends allay information asymmetric between managers and shareholders by delivering inside information of firm future prospects.

Clientele effect

Miller and Modigliani (1963) described the clientele effect by stating that each firm has its own body of stockholders, who find its dividend policy optimum. This statement is the basis of what is called the clientele effect. The idea is that investors have different financial needs and investment objectives. For example, assuming that investors have a portfolio of investments, these investments are attuned to serve the investors' goal such as: high growth, capital preservation, income generation, and other types of strategies. These goals vary in terms of investor's age, family size, education expenses, career, employment package, and other characteristics.

Based on this argument, investors perceive and categorize stocks depending on their financial and operating characteristics. This perception creates a clientele base for each category of stocks. Therefore, changing the characteristics of firms (e.g. product line, investment and dividend policy, etc) could have an impact on the clientele. Depending on the magnitude of the change, investors could exit the company by selling its stock and buying another one that meets their goal.

Tax preference theory

In order to maximize shareholders' wealth, the theory suggests that corporate managers should take into account the cost associated with taxation when deciding on dividend payments. The premise of the argument is based on the fact that in most countries income taxes on dividends are higher than that on capital gains. In addition, taxes on dividends are paid upon receipt of the dividend while taxes on capital gains can be deferred until the investor wishes to sell the shares. Based on this, investors should, in theory, prefer capital gains over receiving cash dividends assuming that the transaction cost (e.g. brokerage commission) does not exceed the tax benefit. As a result, the theory argued that investors are willing to pay a premium for those companies who pay lower dividends but retain their earnings as capital gains (Al Yahyaee, 2006).

Life cycle theory

The life cycle theory is also cited as one of the explanations for dividend payment. Mueller (1972) proposed a formal theory that a firm has a relatively well-defined life cycle, which is fundamental to the firm life cycle theory of dividends. The theory explains that as firms pass through the various stages in their lives, they tend to alter the dividend policy depending on the financial needs of each stage. Implied in this theory is the fact that firms that are in their growth stages are less likely to pay more dividends as compared to firms that are at their maturity stages. Old firms therefore, because they do not have a lot of growth opportunities to fund, are expected to pay more dividends.

2.2. Review of empirical studies

According to Chigazi (2010), the earliest major attempt to explain dividend behaviour of companies has been credited to Graham and Dodd (1934) who were the major proponents and founders of the school of thought referred to as the traditionalist or rightists who offered the first explanation for the relevance of dividend payment. Later support for the literature of determinants of dividend policy and dynamics was given by Lintner (1956), who conducted a study on American Company and thereafter, the work was refined by Fama and Babiak (1968).

Many researchers have attempted to determine the determinants of dividend payout policy. The review of the empirical studies in this section on the determinants of dividend policy has a particular focus on those that have been conducted since the 1990s and it is presented chronologically.

Wang et al. (1993) evaluated the dividend policies and dividend announcement effects using a sample of 102 real estate investment trusts in the United States. Applying the agency cost hypothesis to predict the dividend policies and the determinants of the dividend payouts, they found significant evidence to support the agency cost hypothesis.

D'Souza (1999) examined the agency cost, Market Risk, Investment Opportunities and Dividend Policy. The results of the study clearly showed that negatively relationship between agency cost and market risk with dividends payout. However the study does not support the negative relationship between dividend payout policies and investment

opportunities. The results clearly showed the insignificant relationship between dividend policy and investment opportunities for international firms in sample.

Gugler (2000) examined the relationship between dividends and the ownership and control structure of the firm. The sample consists of 214 non-financial firms over the period 1991-1999. The study found that state controlled firms engage in dividend smoothing, while family-controlled firms do not. The family-controlled firms choose significantly lower target payout levels. Consistently, state-controlled firms were most reluctant and family-controlled firms were least reluctant to cut dividends when cuts were warranted. The dividend behaviour of bank and foreign-controlled firms lied in between state and family-controlled firms. This was consistent with information asymmetries and managerial agency costs. The above results hold for firms with good investment opportunities. The study found that firms with low growth opportunities optimally disgorge cash irrespective of who controls the firm.

Baker et al. (2002) surveyed managers of NASDAQ firms that consistently pay cash dividends to determine their views about dividend policy, the relationship between dividend policy and value, and four common explanations for paying dividends-signalling, tax-preference, agency costs, and bird-in-the-hand arguments. The result showed that managers stress the importance of maintaining dividend continuity and widely agreed that changes in dividends affect firm value. Managers gave the strongest support to a signalling explanation for paying dividends, weak support for the tax-preference and agency cost explanations, and no support to the bird-in-the-hand explanation.

Dicken et al. (2002) examined bank dividend policy and explanatory factors in USA. The study identified factors that explain bank dividend policy. Their model used investment opportunities, capital adequacy, size, signalling, ownership, dividend history, and risk to explain dividend payments. The analysis suggested a negative relationship between dividend payments and investment opportunities, signalling, ownership, and risk and a positive relationship to size and dividend history.

Dong et al. (2005) in a questionnaire survey to a panel of Dutch individual investors tested various theories underlying a firm's dividend payout policy. The theories that they examined from an investor's perspective included signalling, agency costs, dividend irrelevance, transaction costs, uncertainty resolution, free cash flow and taxes. They found that respondents strongly believe that dividend payments send a signal about the profitability of the firm. They concluded that firms are justified to keep up dividend payments in good and bad times given the signalling effect of dividends. Their survey results did support pecking order theory while not support for agency theory.

Amidu and Abor (2006) carried out a study on the Determinants of dividend payout ratios in Ghana. The analyses were performed using data derived from the financial statements of firms listed on the Ghana Stock Exchange during a six-year period. Ordinary Least Squares model was used to estimate the regression equation. The results showed positive relationships between dividend payout ratios and profitability, cash flow, and tax. The results also showed negative associations between dividend payout and risk, institutional holding, growth and market-to-book value. However, the significant variables in the results were profitability, cash flow, sale growth and market-to-book value.

Lee (2006) examined the determinants of dividend policy in Korean banking industry. From the panel data of Korean banks during 1994-2005, the study found that the banks with higher profitability or performance pay more dividends. Furthermore, the study founds very strong, significant, and consistent evidences that the safer banks pay more dividends. In the test for the partitioned sample, the tendency of the banks with higher safety and profitability to pay more dividends was observed more strongly and transparently. Considering that banks were subject to monitoring and surveillance of regulator about their operation and riskiness in addition to the pressure form capital market, dividend policy of banks would be more closely associated with their riskiness than other types of industries.

Adjaoud and Ben-Amar (2007) examined the relationship between corporate governance quality and dividend policy in Canada. Using a sample of 714 firm-years listed on the Toronto Stock Exchange over the period 2002-2005, their results showed that firms with stronger corporate governance have higher dividend payouts. Among the four components of the corporate governance index, they documented that board composition and shareholder rights' policy are positively related to payout ratios. They also find a positive association between firm size, the level of free cash flows and dividend payouts. Finally, they document a negative relationship between firm risk and dividend payouts.

Al-Malkawi (2007) examined the determinants of corporate dividend policy in Jordan. The study used a firm-level panel data set of all publicly traded firms on the Amman Stock Exchange between 1989 and 2000. The study examined the determinants of the amount of dividends using Tobit specifications. The results suggested that the proportion

of stocks held by insiders and state ownership significantly affect the amount of dividends paid. Size, age, and profitability of the firm seem to be determinant factors of corporate dividend policy in Jordan. The findings provided strong support for the agency costs hypothesis and were broadly consistent with the pecking order hypothesis.

Al-Twaijry (2007) conducted a research on Dividend policy and payout ratio by taking evidence from the Kuala Lumpur stock exchange. The purpose of the research was to identify the variables with an expected influence on dividend policy and on payout ratio in an emerging market. Factors including Net Earning per share, cash available per share, book value of the share, company size, company age, past dividends, and past and future earnings were discussed. Eight hypotheses were developed and tested using 300 firms randomly selected from the Kuala Lumpur Stock Exchange. The results suggested that current dividends were affected by their pasts and their future prospects. Payout ratios were not found to have a strong effect on the company's future earnings growth, but had some significant negative correlation with the company's leverage. Cash per share and share book value significantly and positively affect both dividends per share and payout ratio.

Fowdar et al (2007) carried out a study on motivators of dividend payout among firms listed on the Stock Exchange of Mauritius. The paper aimed at examining the factors which motivate the dividend decision among the firms that were officially listed on the Stock Exchange of Mauritius. Factors such as the current ratio, price-to-book value, earnings per share, retention ratio, debt to equity ratio and market capitalization rate per sector were considered. Using a sample of 38 listed companies on the Stock Exchange of

Mauritius, the cross sectional analysis revealed that current earnings, retained earnings and liquidity were among the most significant motivators of dividend payout. Market capitalization rate per sector and price- to-book value turns out to be statistically insignificant while debt to equity ratio turns out to be positively related to dividend payout ratio.

Al-Kuwari (2009) examined the Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of Gulf Co-operation Council (GCC) Countries. The study used a panel dataset of non-financial firms listed on the GCC country stock exchanges between the years of 1999 and 2003. Seven hypotheses were investigated using a series of random effect Tobit models. The models considered the impact of government ownership, free cash flow, firm size, growth rate, growth opportunity, business risk, and firm profitability on dividend payout ratios. The results suggested that the main characteristics of firm dividend payout policy were that dividend payments related strongly and directly to government ownership, firm size and firm profitability, but negatively to the leverage ratio. The results, taken as a whole, indicated that firms pay dividends with the intention of reducing the agency problem and maintaining firm reputation, since the legal protection for outside shareholders was limited. In addition, and as a result of the significant agency conflicts interacting with the need to built firm reputation, a firm's dividend policy was found to depend heavily on firm profitability.

Parua and Gupta (2009) undertook a research on dividend history and determinants in selected Indian companies during 1993-94 to 2004-05. The study attempted to find out the trends in dividend payment and determinants of dividend decision. A sample of 607

listed Indian companies has been considered. The results showed a number of non-payers and low-payers of dividend had increased. Average dividend for the past three years was found to be the most consistent and significant determinant of dividend payment. Current profit, past profit and expected future profit had significant positive role to play in setting dividend rate. Again, cash position and cash flow had significant negative relationship with dividend rate. Interest expenses, capital expenditure, tax ratio and share price behaviour had almost no role to play in the matter of dividend payment. That the stability of dividend was the primary concern for the managers at the time of taking dividend decision was upheld.

Chigazie(2010) conducted a diagnosis of the determinants of dividend payout policy in Nigeria. The paper aimed at investigating the factors determining dividend payout policy in Nigeria. To do this, factor analysis technique was first employed and then alternate econometric method was used on the identified critical factors to ascertain the authenticity or validity of the identified factors. The results showed three factors-earnings, current ratio and last year's dividends impact significantly on the dividend payout and dividend yield in Nigeria. The study concluded the three factors were good predictors of dividend payout policy in Nigeria.

Gill et al. (2010) examined Determinants of Dividend Payout Ratios Evidence from United States. The paper intended to extend Amidu and Abor (2006) and Anil and Kapoor (2008) findings regarding the determinants of dividend payout ratios by examining the same for the American service and manufacturing firms. They found that for the entire sample the dividend payout ratio was the function of profit margin, sales

growth, debt-to-equity ratio, and tax. For firms in the Services industry the dividend payout ratio was the function of profit margin, sales growth, and debt-to-equity ratio. For manufacturing firms they found that dividend payout ratio was the function of profit margin, tax, and market-to-book ratio.

Al-Ajmi and Hussain (2011) carried out a study on corporate dividends decisions evidence from Saudi Arabia. The paper aimed to test the stability of dividend policy, test the effect of cash flow on the company's dividend policy, identify the factors that determine a firm's cash dividend payments, and examine the characteristics of dividend-paying and non-paying firms. The hypotheses were tested using unbalanced panel data for a sample of 54 Saudi-listed firms during 1990-2006. The major Findings were Saudi firms pay out a lower proportion of their cash flows compared to the proportion of dividends of reported earnings. Firms had more flexible dividend policies since they were willing to cut or skip dividends when profit declines and pay no dividends when losses were reported. Lagged dividend payments, profitability, cash flows, and life cycle were found to be determinants of dividend payments. Agency costs were not a critical driver of dividend policy of Saudi firms. Also zakat was found to play a role in explaining firm's dividend decisions.

Imran (2011) undertook a research on Determinants of Dividend Payout Policy a Case of Pakistan Engineering Sector. The purpose of the study was to empirically investigate the factors determine the dividend payout decisions in the case of Pakistan's engineering sector by using the data of thirty-six firms listed on Karachi Stock Exchange from the period 1996 to 2008. By employing various panel data techniques like fixed and random

effects, the results showed that dividend per share was a positive function of last year's dividend, earning per share, profitability, sales growth and the size of the firm, whereas dividend per share had a negative association with cash flow. The liquidity of the firm had found unrelated to dividend payouts in the case of Pakistani engineering firms. So the previous year dividend per share, earnings per share, profitability, cash flow, sales growth, and size of the firm were found to be the most critical factors determining dividend policy in the engineering sector of Pakistan.

Kinfe (2011) carried out an empirical study on the determinants of dividend payout of banks in Ethiopia. The purpose of the study was to identify the various factors that influence the dividend payout policy of banking firms in Ethiopia during 2006 to 2010 and used the sample of six private banks operating in Ethiopia. The study took dividend Payout Ratio as dependent variable and profitability, liquidity, the effect of previous year's dividend, leverage, firm size and growth as independent variables. By using the Lintner's model, the study concluded that Ethiopian banks more rely upon past dividends to fix their dividend payments. The result also showed the positive relationship between firm size and dividend payout ratio. Also, there was no relationship between payout ratio and profitability, growth and leverage. Furthermore, the study concluded that the firm's liquidity had negative relationship with dividend payout. The final conclusion of study was that banks in Ethiopia took into account agency conflicts, previous year's dividend and liquidity, more than profitability, leverage and growth when making decision to pay dividends.

Marfo-Yiadom and Agyei (2011) undertook a research on the determinants of dividend policy of banks in Ghana. Panel data covering the five-year period 1999-2003 were analyzed within the framework of fixed and random effects technique. Sixteen banks were used as a sample in the study. The results showed that profitability, debt, changes in dividend and collateral capacity were the statistically significant factors which positively influence dividend policy of banks in Ghana. On the other hand, they found that growth and age influenced bank dividend policy negatively and significantly. Cash flow had a negative relationship with dividend policy and the result was not significant. Consequently, the major determinants of dividend policy of banks were profitability, leverage, changes in dividend, collateral capacity, growth and age. In all, the study found support for the profitability theory and agency cost theory and partial support for life cycle theory even though no support was found for the free cash flow theory.

2.3. Conclusions and knowledge gaps

Generally during the last fifty years, a lot of empirical and theoretical work has been done regarding dividend policy. Summarizing all these studies the following points can be concluded.

First the literature on dividend policy had produced a large body of theoretical and empirical research, especially following the publication of the dividend irrelevance hypothesis of Miller and Modigliani (1961). However, various market imperfections exist (taxes, transaction costs, information asymmetry, agency problems, etc) and these market imperfections have provided the basis for the development of various theories of dividend policy including tax-preference, clientele effects, signalling, and agency costs.

Second, review of the literature showed that the researches on the determinants of dividend payout had been comprehensively studied in developed countries around the world and in some emerging countries like Pakistan, India and Malaysia. Besides, most of the researches focus on manufacturing, banks and other non financial sectors rather than insurance companies. However, relatively little work had been undertaken in Ethiopia; this was especially true for insurance industry. Therefore, it is expected that a comprehensive examination of the determinants of dividend payout in Ethiopian insurance companies will make an important contribution to knowledge.

In addition, the literature revealed that most of the prior studies had used either statistical analyses or behavioural approach to examine the determinants of dividend policy. Therefore, it was decided here to combine a behavioural approach along with a statistical analysis to the research topic. The use of this mixed methods approach provides a better understanding of research problems than either approach alone and brings robustness to the research findings.

Chapter three

Research methodology

The purpose of this chapter is to present the research methodology adopted in the study. The chapter is arranged as follows. Section 3.1 presents the research questions and hypotheses. This is followed by the research approaches in section 3.2 under which quantitative, qualitative, and mixed approaches are presented with their pros and cons, and the underlying philosophies of each design. Then, section 3.3 presents the research method adopted in the study. Finally Conclusions and the relationships between research questions, hypotheses and the data are presented in section 3.4.

3.1 Research questions and Hypotheses

As already shown in the first chapter, the intent of this study was to examine possible factors that could influence the dividend policy of insurance companies in Ethiopia. In order to achieve this objective, two research questions and five hypotheses have been developed. The hypotheses were constructed to examine the impact of independent variables (profitability, size, growth, liquidity and leverage) that were selected from the literature on the dividend policy as a dependent variable.

The choice of a particular dividend policy by a firm is not usually accidental. It is tailored either to meet the firm's need or the shareholders'. Shareholders have different choice of dividend depending on their needs. Firms also adopt policies that suite their peculiarity. Over time, the number of factors identified in the literature as being important to consider in making dividend decisions increased substantially. There are plenty of potential

determinants for the dividend decisions. Thus, some identifiable factors affecting dividend policy considered in this study with their testable hypothesis are presented as follows:

Profitability

The size of a firm's profit has been a long standing determinant of dividend policy. Directors normally recommend the payment of dividend when the firm has made sufficient profit to warrant such payments. Profitability measures the business performance. It is defined as the ability of a firm to generate profit. A firm's profitability is considered to be an important factor that affects dividend policy. This is because profitable firms are willing to pay higher amounts of dividends and hence a positive relationship is expected between firm's profitability and its dividend payments. This result is also supported by the signalling theory of dividend policy. In the same vein, the pecking order hypothesis suggests that firms finance investment opportunities in a specific order: first with the retained earnings, second, with debt financing and third, from external financing sources (Myers 1984; Myers and Majluf, 1984). If the costs of issuing debt and equity are considered, then less profitable firms are not willing to pay dividends (Al-Najjar and Hussainey 2009). Thus, profitable firms will find it more significant to pay dividends and are more able to have retained earnings. Therefore, based on the above arguments, the study hypothesizes that:

HP 1: *profitability has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

Liquidity

A firm's liquidity is an important factor that affects the distribution of cash dividends. Liquidity measures the extent to which a firm is able to meet its payment of obligations. High liquid firms, i.e., firms with higher cash availability and near cash assets, pay higher dividends to shareholders than those with insufficient cash. This positive association between liquidity and dividend policy is supported by signalling theory. A poor liquidity position means less generous dividend due to shortage of cash. Besides profitability does not mean liquidity, that is, although, firms may have large retained earnings to declare dividend, it may not have sufficient funds to make such payment. Furthermore, if a firm chooses a high dividend payout without the cash flow to back it up, that firm will ultimately have to reduce its investment plans or turn to investors for additional debt or equity financing. All of these consequences are costly. Therefore, most managers do not increase dividends until they are confident that sufficient cash will flow in to pay them (Brealey et al.1999). Accordingly based on the foregoing discussion, the hypothesis relating to liquidity is:

HP 2: *Liquidity has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

Growth

Firms that experience recent growth in revenues tend to pay lower dividends (Chen and Dhiensiri 2009). If the firm is growing rapidly, there will be a high demand of capital. Beside the higher the growth opportunities, the more the need for funds to finance

expansion, and the more likely the firm is to retain earnings rather than to pay them as dividends (Chang and Rhee 1990) and hence minimize the agency conflict. Also the pecking order theory states that firms should finance new projects first with least information-sensitive sources i.e. retained earnings. Consequently, firms with high growth opportunities are likely to retain a greater portion of their earnings to finance their expansion projects as against returning these dividends to shareholders. Hence, according to both agency and pecking order theories, the hypothesis regarding growth is:

HP 3: *Growth has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*

Firm size

A firm's size is expected to explain the firm's dividends policy. Existing literature suggests that size may be inversely related to the probability of bankruptcy (Ferri and Jones 1979; Titman and Wessels 1988). Firm size variable has become a key variable in prior literature to explain the firm's decision to pay dividends. This indicates that large firms can afford to pay higher dividends than the smaller ones. In other word, firm size can serve as an index for the cost of external debt financing, and hence a positive relationship is expected between firm size and dividend policy, indicating that large firms will have less issuing costs. Moreover, large firms tend to be more diversified and their cash flows are more regular and less volatile. Hence, the hypothesis relating to the firm size is:

HP 4: *Firm size has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

Leverage

Debt level is a ratio which shows the extent to which a firm is financed by external funds. Agency models suggest that dividend payments and capital structure can reduce the problems related to information asymmetry. Dividends and debt financing can serve as a mechanism to reduce cash flow under management control, and help to mitigate the agency problems. Therefore, a negative relationship is expected between dividend policy and capital structure. This means that firms with low debt ratios are willing to pay more dividends. It is supported by the agency costs theory of dividend policy. Therefore based on the above discussion, the hypothesis relating to the firm leverage is:

HP 5: *Leverage has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*

In addition, the study tried to answer the following research questions:

RQ1 *What are the determinants of insurance companies' dividend policy in Ethiopia?*

RQ2 *What views do Ethiopian insurance companies' have on the dividend-setting process?*

3.2 Research approaches

When conducting a research, there are different ways of approaching the problem. According to Creswell (2009), there are three approaches of research; quantitative, qualitative and mixed. The following discussions briefly presents the basic features of these research approaches.

A quantitative approach is one in which the investigatory primarily uses postpositive claims for developing knowledge, employs strategies of inquiry such as experiments and surveys, and collect data on predetermined instruments that yield statistics data (Creswell, 2009). Apart from the possible discovery of causal relations and generalization, it is very much statistical which reduces personal implication of the researcher to a negligible minimum (Schulz, 2003). But, quantitative research needs to start with an existing theory and its linear approach is not very well suited to complex questions. The highly structured process can also limit flexibility (Schulz, 2003). Also it requires large sample sizes and the results do not have enough depth to provide a rich understanding of the phenomena (Hussey and Hussey, 1997).

The second approach is qualitative approach and it is one in which the inquirer often makes knowledge claims based primarily on constructivist perspectives or participatory perspectives or both. It also uses strategies of inquiry such as narratives, phenomenologist, ethnographies, grounded theory studies, or case studies (Creswell, 2009). The benefits of a qualitative research approach lies in the in-depth information generated by studying a phenomena closely (Mack et al. 2005). But qualitative approach normally employs small samples and it is highly flexible, generalization of results is harder to achieve. Further data analysis is often time consuming and the results are more easily influenced by the researcher's personal biases and idiosyncrasies (Johnson and Onwuegbuzie 2004, p. 20).

The third approach is mixed approach in which the researcher tends to base knowledge claims on pragmatic grounds. It employs strategies of inquiry that involve collecting data

either concurrently or sequentially to best understand research problem. The data collection involves gathering both numeric information (e.g., on instruments) as well as text information (e.g., on interviews) so that the final database represents both quantitative and qualitative information. Hence, this approach mixes the strengths of the two extreme approaches (Creswell, 2009). But in mixed research design, researcher has to learn about multiple methods and approaches and understand how to mix them appropriately (Johnson and Onwuegbuzie 2004, p. 20).

Generally in light of the discussions above on qualitative, quantitative and mixed research methods, in this study, the quantitative method is predominantly used. However, to have a better insight and gain a richer understanding about the research problem, the quantitative method is supplemented by the qualitative method of inquiry. That is, to get the benefits of a mixed methods approach, as presented earlier, and to alleviate the bias in adopting only either quantitative or qualitative approach, the current research combines both quantitative and qualitative research approaches. The next section focuses on the description of research method used in this study.

3.3 Research methods adopted

Decision regarding the selection of research instrument, the nature of collected data and the analysis of collection are based on the research method used in a study. Selection of appropriate research methods is very important because it decides the quality of study findings. For the purpose of the present study, mixed approach which advocates the combination of both qualitative and quantitative has proved to be ideal for the study on determinants of dividend policy of insurance companies in Ethiopia. The central premise

is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone (Creswell 2009). The following sections, thus, discuss consecutively the quantitative and qualitative aspects of the research method.

3.3.1 Quantitative aspect of research method

Quantitative research approach deals with numerical data and statistical analyses to answer questions about relationships among measured variables. Even if there are two strategy of inquiry under quantitative approach, this study used a survey design due to its merit of economy and enables to gather enough information. In addition the purpose of this study is to examine possible factors that could influence the dividend decision of insurance industry in Ethiopia, there is a need of a quantitative or numeric description of relationship between the independent and dependent variables.

The survey, as a quantitative research strategy, can collect quantitative data by different types. Fink (2002), as quoted in Creswell (2009, p. 146), says there are four data collection types of survey, "self-administered questionnaires; interviews; structured record reviews to collect financial, medical, or school information; and structured observations". The survey instrument adopted in this study to collect data was a structured record review. The following section, accordingly, reviews the issues in a sample design in respect of the current study.

Sampling design

The target population of the study were all insurance companies registered by NBE and under operation in Ethiopia. Currently, fourteen insurance companies are working in Ethiopia (as presented in appendix 1). However for meaningful analysis, there was no need to sample from the fourteen insurance companies, as they were already few in numbers to collect information over the period of 2003-2011. But, five insurance companies (Lion, Oromia, Ethio-life, Abay and Birhan) did not have full information for the study period as their year of service was below five year. As a result they were excluded in sampling frame to avoid variation in firm year observation. Accordingly, audited financial statements of nine consecutive years from 2003-2011 of each insurance companies included in the sample frame was considered (81 yearly observation).

3.3.2. Qualitative aspect of research method

Since the nature of this research requires in-depth understanding of the factors affecting dividend policy of insurance companies in Ethiopia, an interview was suitable to uncover such information. Easterby-Smith et al. (1991) commented that the interview method is the most fundamental of all qualitative methods and is claimed to be the best method for gathering information.

The researcher conducted an in-depth interview in unstructured face to face interview form. In respect of instrument, unstructured face to face interview was used because of its flexibility and also allowing new questions to be brought up during the interview. Regarding the sample design, non-probability purposive sampling method was adopted.

So, to explore the view of company officials about the determinants of dividend policy, eight financial managers were interviewed by using unstructured face to-face interviews.

3.3.3. Data analysis method

Data analysis in different research design relate to the type of research method chosen for the study. The specific method applied in this study was mixed method. Therefore in the study, quantitative data from structured record reviews was analyzed using both descriptive and inferential statistics. The study also conducted correlation analysis, specifically Pearson correlation to measure the degree of association between the variables under consideration. In addition ordinary least square (OLS) was conducted using statistical package 'EVIEWS', to determine the most significant and influential explanatory variables affecting the dividend policy of the insurance industry in Ethiopia. Then, the results of both descriptive as well as inferential statistics results were presented by appropriate graphs and tables.

Beside, the panel character of the data collected allow for the use of panel 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 (Freeman 1984). The general form of the panel data model can be specified more compactly as:

$$Y_{i,t} = \alpha_i + \beta X_{i,t} + \varepsilon_{i,t}$$

In this equation, $Y_{i,t}$ represents the dependent variable, which is the firm's dividend policy and $X_{i,t}$ contains the set of explanatory variables in the model. The subscripts i and

t denote the cross-sectional and time-series dimension respectively. Also α_i is taken to be constant over time t and specific to the individual cross-sectional unit i. If α_i is taken to be the same across units, then Ordinary Least Square (OLS) provides a consistent and efficient estimate of α_i and β.

In the light of the above model and on the base of selected variables the current study used econometric model as shown below.

DPO = f (PROF, LIQ, GRO, SZ, LEV)

$$DPO_{i,t} = \alpha_i + \beta_1 PROF_{i,t} + \beta_2 LIQ_{i,t} + \beta_1 GRO_{i,t} + \beta_1 SZ_{i,t} + \beta_1 LEV_{i,t} + \varepsilon$$

Where DPO=Dividend policy

PROF=Profitability

LIQ=Liquidity

GRO= Growth

SZ=Size

LEV=Leverage

The dividend policy, which is the dependent variable, is defined as the dividend divided by net income after tax. The explanatory variables include profitability (PROF), liquidity (LIQ), growth (GRO), size (SZ) and leverage (LEV).These variables are defined in Table 3.1 together with the expected signs below.

Table 3.1: Definition of variables (proxies) and Expected signs

Variables		Definition	Expected sign
Dependent	DPO	Dividend Policy = the ratio of dividend paid to Net Income after tax for insurance company *i* in time *t*	
Independent	PROF	Profitability = Return on Assets (Net Income to Total Asset Ratio) for insurance company *i* in time *t*	Positive
	LIQ	Liquidity= current ratio of insurance company *i* over time *t*.	Positive
	GRO	Growth = Annual changes in total assets of insurance company *i* over time *t*.	Negative
	SZ	Firm's size= natural logarithm of total assets for insurance company *i* in time *t*	Positive
	LEV	Leverage = the ratio of Total Debt to Total Assets for insurance company *i* in time *t*	Negative
	ε	The error term	

One issue that may arise from the use of panel data is whether the individual effect is considered to be fixed or random. On the one hand, while random effects estimation addresses the endogeneity issue by instrumenting potentially endogenous variables, it also assumes that the individual firm effects are uncorrelated with the exogenous variables. On the other hand, the fixed effect estimation deals successfully with the correlated effects problem, yet it fails to account for potential endogeneity of regressors. The Hausman's test was employed to select the appropriate method from the fixed effect model (FEM) and Random Effect Model (REM).

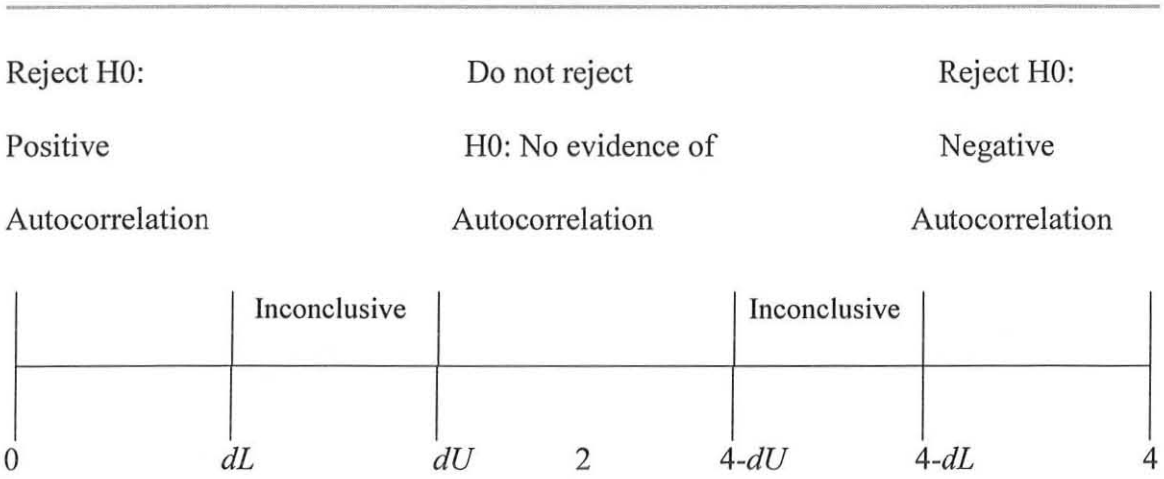
As it is mentioned above, for this study OLS were used. Therefore, before the regression was run tests for fulfilment of the basic Classical Linear Regression Model (CLRM) assumptions were tested. Consequently, the basic CLRM assumptions tested in this study were errors have zero mean, homoskedasity, autocorrelation, normality and multicollinearity. According to Brooks (2008) when the assumptions are satisfied, it means that all the information available from the patterns was used. But, if there is assumption violation of that data usually means that there is a pattern of data that have not included in the model, and could actually find a model that fits the data better.

The first assumption is the errors have zero mean. According to Brooks (2008), if a constant term is included in the regression equation, this assumption will never be violated. The second assumption is hetroskedasity. The assumption of homoscedasticity is that the variance of the errors is constant or equal. If the variance of the errors is not constant, this would be known as hetroscedacity (Gujirati, 2004 p.387). In order to test homoscedasticity the white test was used.

The third assumption is the autocorrelation assumption that the covariance between the error terms over time is zero; it assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are serially correlated. Usually, Durbin-Watson (DW) value in the main regression table is considered and used to test the presence of autocorrelation.

According to Brooks (2008), DW has 2 critical values: an upper critical value (dU) and a lower critical value (dL), and there is also an intermediate region where the null hypothesis of no autocorrelation can neither be rejected nor not rejected.

Figure 3.1: Rejection and Non-Rejection Regions for DW Test



The rejection, non-rejection, and inconclusive regions are shown on the number line in figure 3.1. So, the null hypothesis is rejected and the existence of positive autocorrelation presumed if DW is less than the lower critical value; the null hypothesis is rejected and the existence of negative autocorrelation presumed if DW is greater than 4 minus the lower critical value; the null hypothesis is not rejected and no significant residual autocorrelation is presumed if DW is between the upper and 4 minus the upper limits; the null hypothesis is neither rejected nor not rejected if DW is between the lower and the upper limits, and between 4 minus the upper and 4 minus the lower limits.

The fourth assumption is Normality of the error distribution that assumed the errors of prediction (differences between the obtained and predicted dependent variable scores) are normally distributed. Violation of this assumption can be detected by constructing a histogram of residuals (Brooks 2008).

Finally the fifth assumption is multicollinearity assumption which refers to the situation in which the independent variables are highly correlated. When independent variables are

multicollinear, there is overlap or sharing of predictive power. This may lead to the paradoxical effect, whereby the regression model fit the data well, but none of the explanatory variables (individually) has a significant impact in predicting the dependent variable (Gujarati 2004). A Pearson correlation is used for the purpose of testing multicollinearity in this study. The Pearson correlation matrix is a technique of testing multicollinearity of explanatory variables by investigating the relationship of biviariate variables (Wooldridge 2006).

Regarding data collected from in-depth interview, the response of the interviewees was transcribed in word document and the results were analyzed using triangulation with the findings of the structured record reviews. Thus the opinion of majority of interviewees forwarded was used for arguments supporting the result obtained from analysis of structured record reviews.

3.4 Conclusions and the relationships between research questions, hypotheses and the data

This chapter discussed the research questions, hypotheses, research methods and different data sources which were used to address the study problem. In general basing the research problems and objective the study developed two research questions and five hypotheses. Similarly, based on the underlying principles of research methods and research problem mixed method were chosen as appropriate to this research. Specifically, a structured record review was used to collect quantitative data whereas in-depth-interview was conducted to gather qualitative data. Finally the research questions and

hypotheses with their respective strategy of inquiry and data collected were summarized in table 3.2 below.

Table 3.2: Linkage between research questions, hypotheses and data source

Research question and hypotheses	**Strategy of inquiry**	**Data collection method**
RQ1- *What are the determinants of insurance companies' dividend policy in Ethiopia?*	Phenomenology	In-depth unstructured face-to-face interview; interview with company officials
RQ2. *What views do Ethiopian insurance companies' officials have on the dividend-setting process?*		
Hypothesis 1: *Profitability has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*	Survey method: **Dependent variable:** Dividend policy **Independent Variable:** - profitability -liquidity - growth -size -leverage	Structured record reviews: data from insurance companies: Financial statements of nine consecutive years (from 2003-2011)
Hypothesis 2: *Liquidity has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*		
Hypothesis 3: *Growth has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*		
Hypothesis 4: *Firm size has a positive and significant impact on dividend policy of insurance companies in Ethiopia*		
Hypothesis 5: *Leverage has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*		

Chapter four

Results and discussions

The previous chapter has presented the research questions, hypotheses, and the choice of the appropriate research method for the study. This chapter presents the results and analysis of the findings of the different methods used. The chapter is organized to have three sections. Section 4.1 presents research questions and hypothesis. Then Section 4.2 presents the results of structured record reviews and in depth interview. Then the results obtained under these different methods are jointly analyzed in the discussion section presented in section 4.3.

4.1. Research questions and hypotheses

As stated in chapter one the objective of this study was to examine the possible factors affecting dividend policy of insurance companies in Ethiopia. Further, as noted previously, five hypotheses and two research questions were developed to achieve the study objective. The hypotheses of the study were;

In order to achieve the objective of the study stated above, the following research hypotheses (HP) were developed:

HP 1: *profitability has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 2: *Liquidity has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 3: *Growth has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 4: *Firm size has a positive and significant impact on dividend policy of insurance companies in Ethiopia.*

HP 5: *Leverage has a negative and significant impact on dividend policy of insurance companies in Ethiopia.*

In addition, the research questions of the study were;

RQ1 *What are the determinants of insurance companies' dividend policy in Ethiopia?*

RQ2 *What views do Ethiopian insurance companies' officials have on the dividend-setting process?*

4.2 Results

As mentioned in chapter three, this study covers all insurance companies operating in Ethiopia. There are fourteen insurance companies currently operating in Ethiopia. But, five insurance companies did not have full information for the study period as their year of service was below five year. As a result they were excluded in sampling frame to avoid variation in firm year observation. Thus, financial data of nine consecutive years from 2003-2011 of nine insurance companies included in the sample frame was collected. In this study profitability, growth, size, liquidity and leverage were considered as independent variables. Dividend policy was considered as dependent variables. Profitability and liquidity were measured taking ROA and current ratio as a proxy respectively. Where as natural logarithm of total asset and change in total asset was used to measure size and growth correspondingly. Also debt ratio was used as a surrogate of

leverage. With regard to in-depth interviews, the study conducted interview with eight insurance companies' financial managers.

This section of the chapter discusses the results of the different data sources and it is structured as follows. First, it gives the descriptive statistics of the variables used in the research in section 4.2.1. Second, it presents the results of correlation analysis and tests for the Classical Linear Regression Model assumptions respectively in sections 4.2.2 and 4.2.3. Then the result of the regression analysis is presented in section 4.2.4 and finally the result of in-depth interviews is presented in section 4.2.5.

4.2.1 Descriptive statistics

Table 4.1 provides a summary of the descriptive statistics of the dependent and independent variables for nine insurance companies for a period of nine years from year 2003-2009 with a total of 81 observations. The table includes the mean, median, standard deviation, number of observations, minimum and maximum for the independent and dependent variables of the model. It shows the average indicators of variables computed from the financial statements.

As shown in chapter three, dividend payout was measured as dividend divided by net income after tax. The mean of dividend payout ratio was 65 percent and standard deviation 29 percent. This means, insurance companies in Ethiopia, under the period of study, paid out 65 percent of their net income after tax as dividend. Regarding the standard deviation, it means the value of dividend can deviate from its mean to both sides by 29 percent.

To check profitability and its relationship with the dividend policy Return on asset (ROA) was used as a proxy. The average profitability was 6 percent. This means, on the average, for each one birr investment in the asset of insurance companies there was 0.06 cent return. The maximum value of ROA for the year was 0.15 where as the minimum value was -0.10. Also the standard deviation was 0.04 which indicate there was low variation from the mean.

Regarding the leverage, it was proxied by debt ratio (total debt divided by total asset). The mean of debt ratio of the sampled firms was 65 percent. It reveals that debt represents nearly 65 percent of the capital of insurance companies. The highest debt ratio for a company in a particular year was 0.83 and in the same way the minimum ratio for a company in a year was 0.33.

The average value of the growth variable as proxied by change in total assets was 18 percent. This implies that on average, the insurance companies' assets increased by 18 percent over the study period. The maximum value of growth for the study period was 110 percent and a minimum value of -11 percent. The standard deviation was 18 percent.

Further, to check the size of the insurance company and its relationship with dividend policy, natural logarithm of total asset was used as proxy. The mean of the natural logarithm of total assets over the period 2003 to 2011 was 18.89 and standard deviation of 1.06. The maximum value was 21.22 while the minimum value was 16.53. The higher standard deviation might be due to the inclusion of EIC, the oldest government owned insurance company, in the sample.

Finally, the average value of the liquidity measured by Current ratio was 2.00. This means for each one birr current liability there was 2 birr current asset to meet obligation. The maximum value and the minimum value was 4.3 and 1.13 respectively for the study period.

Table 4.1: Descriptive Statistics of the Variables

	DPO	GRO	LIQ	PROF	SZ	LEV
Mean	0.65	0.18	2.00	0.06	18.72	0.65
Median	0.72	0.15	1.82	0.07	18.70	0.65
Maximum	1.29	1.10	4.30	0.15	21.22	0.83
Minimum	0.00	-0.11	1.13	-0.11	16.53	0.33
Std. Dev.	0.29	0.18	0.70	0.04	1.06	0.10
Observations	81	81	81	81	81	81

Source: Financial statements of sampled insurance companies and own computation

4.2.2 Correlation Analysis

Table 4.2 provides the Pearson's correlation matrix for the variables used in the analysis. As can be seen from the table, the result of correlation between growth and dividend payout showed a negative coefficient -0.05. It indicates that if the growth opportunities increase it will have a negative impact and decrease it. The correlation result between liquidity and dividend payout showed a positive sign with a coefficient of 0.26. This indicates, if the insurance companies' liquidity or cash flow increases, the dividend payout also increases. Besides, profitability had a positive correlation with dividend

payout with a coefficient of 0.47. This implies an increase in profitability result increase in dividend payout.

Further there was positive correlation between size and dividend payout and the coefficient was 0.03. This shows that as size of insurance companies increase dividend payout also increase. Meanwhile, the correlation result showed that negative relationship between leverage and dividend payout and the coefficient was -0.26. This indicates increase in leverage inversely affect dividend payout.

Generally, the correlation results showed profitability, liquidity and size have a positive relation with dividend policy. On the other hand dividend policy had negative relation with leverage and growth. The signs of correlation coefficients between the dependent variable and independent variables were generally consistent with the hypotheses.

Table 4.2: Correlation matrix

	DPO	GRO	LIQ	PROF	SZ	LEV
DPO	1.00					
GRO	-0.05	1.00				
LIQ	0.26	0.01	1.00			
PROF	0.47	0.27	-0.06	1.00		
SZ	0.03	-0.06	-0.09	0.36	1.00	
LEV	-0.26	0.09	-0.46	0.01	0.70	1.00

Source: Financial statements of sampled insurance companies and own computation

4.2.3. Tests for the Classical Linear Regression Model (CLRM) assumptions

This section presents the test for the assumptions of classical linear regression model (CLRM) namely the error have zero mean, hetroskedasity, autocorrelation, normality and multicollinearity.

4.2.3.1. Assumption one: the errors have zero mean (E (ε) = 0)

According to Brooks (2008), if a constant term is included in the regression equation, this assumption will never be violated. Thus, since the regression model used in this study included a constant term, this assumption was not violated.

4.2.3.2 Assumption two: homoscedasticity (variance of the errors is constant (Var (u_t) = $\sigma^2 < \infty$)

If the errors do not have a constant variance, it is said that the assumption of homoscedasticity has been violated. This violation is termed as heteroscedasticity. In this study white test was used to test for existence of heteroscedasticity across the range of explanatory variables.

Table 4.3: Heteroscedasticity Test: White

F-statistic	1.532488	Prob. F(20,60)	0.1037
Obs*R-squared	27.38706	Prob. Chi-Square(20)	0.1247
Scaled explained SS	21.93631	Prob. Chi-Square(20)	0.3440

Source: Financial statements of sampled insurance companies and own computation

The result in table 4.3 shows, the F-, χ^2, and scaled explained SS versions of the test statistic give the same conclusion that reveals the absence of heteroscedasticity, since the p-values were considerably greater than 0.05.

4.2.3.3 Assumption three: covariance between the error terms over time is zero (cov $(u_i,u_j) = 0$)

This is an assumption that the errors are linearly independent of one another (uncorrelated with one another). If the errors are correlated with one another, it would be stated that they are autocorrelated.

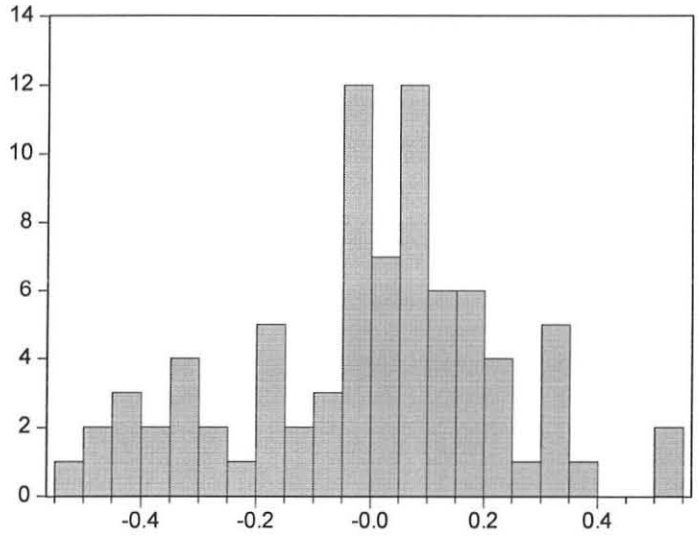
The DW test statistic value in the multivariate regression result was 1.92. There are 81 yearly observations in the regression. According to DW stat table, the relevant critical values for the test were dL = 1.364, dU = 1.624, so 4 − dU = 2.376 and 4 − dL = 2.636.

The test statistic was clearly between the upper and 4 minus the upper limits (as presented in figure 3.1) and thus the null hypothesis of no evidence of autocorrelation was not rejected and no significant residual autocorrelation was presumed.

4.2.3.4. Assumption four: normality (errors are normally distributed ($u_t \sim N(0,\sigma^2)$)

According to Brooks (2008), if the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant. This means that the p-value given at the bottom of the normality test screen should be greater than 0.05 to support the null hypothesis of presence of normal distribution at the 5 percent level.

Figure 4.1: Normality Test Result



Series: Standardized Residuals	
Sample 2003 2011	
Observations 81	
Mean	-1.28e-16
Median	0.030606
Maximum	0.537359
Minimum	-0.522609
Std. Dev.	0.227883
Skewness	-0.245131
Kurtosis	2.869471
Jarque-Bera	0.868704
Probability	0.647684

Source: Financial statements of sampled insurance companies and own computation

The above diagram witnesses that normality assumption holds, i.e., the coefficient of kurtosis was close to 3, and the Bera-Jarque statistic has a P-value of 0.64 implying that the data were consistent with a normal distribution assumption. Also, it implies that the inferences made about the population parameters from the sample parameters tend to be valid.

4.2.3.5. Assumption five: Multicollinearity Test

Multicollinearity in the regression model suggests substantial correlations among independent variables. This phenomenon introduces a problem because the estimates of the sample parameters become inefficient and entail large standard errors, which makes the coefficient values and signs unreliable. In addition, multiple independent variables

with high correlation add no additional information to the model. It also conceals the real impact of each variable on the dependent variable (Anderson et al., 2008).

Hair et al. (2006) argued that correlation coefficient below 0.9 may not cause serious multicollinearity problem. Also, Cooper and Schendlar (2009) suggested that a correlation above 0.8 should be corrected for. In addition, Malhotra(2007) stated that multicollinearity problems exists when the correlation coefficient among variables should be greater than 0.75.

Table 4.4: Correlation Matrix between independent variables

	GRO	**LIQ**	**PROF**	**SZ**	**LEV**
GRO	1.00				
LIQ	0.01	1.00			
PROF	0.27	-0.06	1.00		
SZ	-0.06	-0.09	0.36	1.00	
LEV	0.09	-0.46	0.01	0.70	1.00

Source: Financial statements of sampled insurance companies and own computation

The method used in this study to test the existence of multicollinearity was by checking the Pearson correlation between the independent variables. The correlations between the independent variables are shown in table 4.4 above. All correlation results are below 0.75, which indicates that multicollinearity is not a potential problem for this study. In general, all tests illustrated above were testimonials as to the employed model was not sensitive to the problems of violation of the CLRM assumption.

4.2.4 Regression results

There are broadly two classes of panel estimator approaches that can be employed in financial research: fixed effects models (FEM) and random effects models (REM) (Brooks 2008). To check which of the two (FEM or REM) models provide consistent estimates for this study; Hausman test was employed and the result is presented as follows.

Table 4.5: Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.538724	5	0.7707

Source: Financial statements of sampled insurance companies and own computation

The null hypothesis of the test was that the random effect method is the preferred regression method. Tables 4.5 show the p-value for the test is 77 percent, which indicate that the null hypothesis was not rejected. Hence, the random effect method was preferable. Accordingly, REM was employed to estimate the relationship between the dependant variable and the independent variables.

Table 4.6 below reports regression results between the dependent variable (dividend payout) and explanatory variables. The R-squared value measures how well the regression model explains the actual variations in the dependent variable (Brooks, 2008). The adjusted R^2 value in table 4.6 below indicates that 33% of the total variability of

dividend policy of insurance companies was explained by the variables in the model. The regression F-statistic (8.81) and the p-value of zero attached to the test statistic reveal that the null hypothesis that all of the coefficients are jointly zero should be rejected. Thus, it implies that the independent variables in the model were able to explain variations in the dependent variable.

Table 4.6: Regression result-REM

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.085	0.631	1.722	0.0892*
GRO	-0.354	0.173	-2.052	0.0436**
LIQ	0.115	0.051	2.284	0.0252**
PROF	4.107	0.854	4.808	0.0000***
SZ	-0.044	0.051	-0.863	0.3909
LEV	-0.038	0.565	-0.067	0.9464

R-squared	0.37026	Durbin-Watson stat	1.92265
Adjusted R-squared	0.32828		
F-statistic	8.81965		
Prob(F-statistic)	0.00000		

***, **, * indicates significant at 1%, 5%, and 10% significance level respectively.

Source: Financial statements of sampled insurance companies and own computation

From the explanatory variables, profitability had positive and statistically significant relation with dividend policy at 1 percent significance level. Liquidity had also positive relationship with dividend policy at 5 percent significance level. In the same way growth was found to be negatively related with dividend policy at 5 percent significance level. In addition firm size and leverage variables were found being statistically insignificant and negative related with dividend policy.

4.1.5 In-depth interviews results

As stated in chapter three, apart from the structured record review, this study employed in-depth interviews with Insurance companies' officials. The in-depth interview was conducted with eight financial managers. These financial managers were from Ethiopian insurance corporation (EIC), Africa, Global, NIB, Nile, Nice, Nyala and united insurance share companies. The interview questions were unstructured and focused on the importance of dividend payout decisions relative to investment and financing decisions, view towards dividend policy, and the main factors that affect the payout policy of the company.

Before turning to the issue of dividend policy determinants, the interview explored the broad issue of the importance of the payouts in the Ethiopian insurance industry relative to investment and financing decisions. In contrast to the dividend irrelevance argument, all the interviewees considered dividend policy to be an important decision for their firms. Moreover, the discussions demonstrated that a broad interdependency of investment, financing and dividend policies exists in Ethiopian insurance industry and

decisions about dividends were not taken in isolation but were considered alongside the investment and financing needs of firms in order to maximize the shareholders value.

Regarding the impact of dividend payment, management pays more attention to its impact on the firm's capital needs. A high dividend pay out reduces firm's access to retained earnings, which is often viewed as the lowest cost source of capital. For that reason, management may prefer lower dividend pay out ratios, but must recognize the realities imposed by shareholders preference for at least some payment of dividends. It was also sought to discover what makes top management take decisions to pay dividends. The interviewees suggested that the most important factor was meeting shareholder requirement for income. Besides, managers seem to favour the statement and acknowledge the shareholder's preference for the periodic cash payment of dividends. So the interview evidence shows that managers of Ethiopian insurance companies express greater support for bird-in-the-hand explanation for paying dividend.

In addition, in most of the companies, the interviewees suggested the board of directors propose the amount to be paid as dividend and it will be finally approved in annul general meeting (AGM) by the vote of shareholders. But in Ethiopian insurance corporation (EIC), the interviewee suggested that as it is owned by the government and there is no shareholder like other insurance companies, it has a rule in which the dividend will be given to the ministry of finance and economic development (MOFED)

In response to a specific question about the existence of target dividend payout ratio, the interviewees stated that their firm did not have target ratios and did not payout a constant

proportion of earnings as dividends. The actual payout ratio was instead revised each year depending upon the current earnings, the situation of the firm and market.

On the question that focuses on the determinants of dividend policy, respondents offered various factors, especially since the question was open ended. A number of factors were mentioned by particular interviewees as affecting the formulation of their firms' dividend policy. Despite varying responses, however, the most common factor sighted was situation of the firm, industry effect, current earning, past dividends, taxation, number of claim, leverage, size, monetary rules and regulation, liquidity or cash flow and investment opportunity.

From the factors listed above, all the interviewees suggested that a firm's current year's earnings were the main and most important factor in crafting a dividend policy. After current year earnings, most of interviewees claimed that the availability of cash was the most important factor when setting a dividend level. In addition, the interviewees indicated that their company's dividend policy fluctuated with the firm's change in investment and financing needs.

Besides, the interviewees indicated that the size had positive impact on there dividend policy. The interviewees reflected that as the size of the firm increase in terms of branch, asset and other things it attracts customers and reflect the firm's ability to meet the claim. This will enhance the premium to be collected from customers and results increase in profitability in which it results in increase in dividend. Regarding the impact of leverage on dividend policy, the interviewees indicated that it has mixed impact. Some of the interviewees revealed that firm decrease payment of dividend to meet claims. On the

other hand some of the interviewees revealed debt increases the profitability of insurance companies; higher debt (premium collection) was much more likely to indirectly allow insurance companies to pay more dividends from the enhanced earnings.

Overall, the results clearly suggest that, managers believe that the dividend policy matters and a firm's dividend policy were influenced by a number of factors. Further, Most of the firms interviewed did not have target ratios; instead, the dividend payout fluctuates from year to year.

4.3. Discussion of result

This section of the chapter discusses some of the main implications of the results. The analysis is based on the results of the regression between the dependent variable and the independent variables presented in table 4.6 and in-depth interview. The results obtained under these different methods are jointly analyzed

Profitability

As shown in section 4.1 this study hypothesized that profitable firms are more able to pay dividends. The result is in line with the hypothesis. In particular, the coefficient on profitability (ROA) was positive and statistically significant at the one percent level with a p-value of 0.00. This means that the profitable insurance companies in Ethiopia are more likely to pay dividends for their shareholders. This result is consistent with the signalling theory of the dividend policy theory. Therefore, the more profitable the insurance company is, the higher the possibility to pay dividends.

According to pecking order theory, highly profitable firms are in a position to distribute dividends. Fama and French (2001) reported a positive association between dividends and profitability which they interpret as evidence in support of the pecking order theory. Thus, profitable firms will find it more significant to pay dividends and to generate more retained earnings. This result is also similar to Lintner (1956, p. 107) where Lintner stated that "...net earnings were the dominant element which determined current changes in dividends". Besides Al-Kuwari (2009) and Pruitt and Gitman (1991) concluded that current years' profits are important factors that influence dividend policy.

Hence, profitability is considered an important factor in influencing dividend payment. This result clearly supports hypothesis that profitability has a positive and significant impact on dividend policy of insurance companies in Ethiopia and it is in line with the result obtained from the in-depth interview. All the interviewees suggested that a firm's current year's earnings were the most important factor in crafting a dividend policy.

Liquidity

As expected in section 4.1, the results indicated a significantly positive relationship between liquidity and dividend payout ratios at five percent significance level with a p-value of 0.02. The results of this study suggest that, a good liquidity position increases insurance companies' ability to pay dividend. Generally, insurance companies with good and stable cash flows are able to pay dividend easily compared with insurance companies with unstable cash-flow position. This positive association between liquidity and dividend policy is supported by prior literature and signalling theory. Alli et al. (1993) observed that dividend payment depend on liquidity. Amidu and Abor (2006) found a

positive relationship between liquidity and dividend payout ratios. Anil and Kapoor (2008) also indicated that liquidity is an important determinant of dividend payout ratio. Thus, this study supports the hypothesis that liquidity has a positive and significant impact on dividend policy of insurance companies in Ethiopia. Besides, the finding is consistent with the answer of the interviewees as most of them claimed that after current earnings the availability of cash was the most important factor when setting a dividend level.

Growth

It is predicted that firms with high growth or investment opportunities tend to retain their income to finance their investments, thus paying less or no dividends. As expected, the result shows the relationship between growth and dividend payout policies is negative and significant at five percent significance level with a p-value of 0.04. This is indicative of the fact that, growing insurance companies requires more funds in order to finance their growth and therefore would typically retain greater proportion of their earnings by paying low dividend. Thus, the insurance companies with large investment opportunities pay fewer dividends.

Also the result is in line with the expected negative sign predicted by the agency theory and pecking order theory. This means that Ethiopian insurance companies with high growth opportunities tend to pay fewer dividends. This view is supported by Higgins (1972), who noticed that payout ratio is negatively related to a firm's need for funds to finance growth opportunity. The finding was also consistent with the result obtained from

the in-depth interview as the interviewees indicated that their company's dividend policy fluctuated with the firm's change in investment opportunity.

Firm Size

A large firm typically has better access to capital markets and finds it easier to raise funds with lower cost and fewer constraints compared to a small firm. This suggests that the dependence on internal funding decreases as firm size increases. Therefore, ceteris paribus, large firms are more likely to afford paying higher dividends to shareholders (Holder et al. (1998) and Fama and French (2001)). Accordingly, it was hypothesized in section 4.1 that firm size has a positive and significant impact on dividend policy of insurance companies in Ethiopia. But contrary to the expectation, size has a negative but insignificant relationship with dividend policy. This shows that company size does not determine the dividend policy of insurance companies in Ethiopia. It is also inconsistent with the result found in the in-depth interview in which most of the interviewees' revealed positive impact of size on dividend.

The negative relationship of size with payout is arguable, as some researchers have reported negative relationship of size with payout like Naceur et al. (2006), Avazian et al. (2006), and Ahmed and Javid (2009). While majority of others researchers have reported positive relationship of size with corporate payouts (See for example; Holder *et al.* (1998), Chang and Rhee (1990), Ho (2003), Al-Malkawi (2007), Redding (1997), and Fama and French (2001) etc.). More specifically, Aivazian et al. (2003) argued that large firms are more likely to be mature and thus have easier access to capital markets, and should be able to pay more dividends.

However, in this study, it seems that firm size is not significant indicating that insurance companies pay dividend regardless of size. The possible reason for the inverse and insignificant relation of dividend policy and size could be the fact that most of insurance companies are established recently and less likely to be matured. Also it may be resulted from the impact of lack of capital market and undeveloped financial system in Ethiopia. In addition it may be due to the fact that there is a high variation in size.

Leverage

Highly levered firms depend on external financing to a greater extent than the one with lower leverage ratios, because leverage produces fixed charge requirements. Consequently, levered firms should pay fewer dividends. This hypothesis was tested using the debt ratio as a surrogate for leverage. As predicted in section 4.1, the results of this study show a negative and but statistically insignificant relationship between leverage and dividend payout ratios. This negative relationship is in line with the agency theory and could be explained in a way that insurance companies' with low debt ratio tend to pay high dividends and increasing leverage is associated with decrease in dividend payout.

A number of previous studies reported statistically significant and negative relationship between financial leverage and dividend payout. Jensen *et al.,* (1992) and Aivazian *et al.* (2003) argued that a firm's leverage is a key factor explaining the firm's decision to pay dividend. They found a negative association between firm's leverage and dividends. "Firms with relatively less debt and more tangible assets have greater financial slack and more able to pay and maintain their dividends" (Aivazian *et al.* 2003, p. 380). Kowalski

et al (2007) argued that more indebted firms prefer to pay lower dividends. Also, Al-Kuwari (2009) confirmed that dividend policy is negatively related to leverage ratio. But for insurance companies in Ethiopia, leverage was not found to be one of the determinants of dividend policy. Thus, this study does not support the hypothesis that leverage has a negative and significant impact on dividend policy of insurance companies in Ethiopia as it is statistically insignificant. The insignificant relationship may be resulted due to the nature of insurance business in that leverage does not produce fixed charge requirements (i.e. No interest is paid to the amount collected as a premiums from customers). Also it may be due to insurance companies' low amount of long-term liability.

On the other hand, the discussions with the interviewees suggested that Ethiopian insurance companies devote considerable time and attention to dividend policy. In contrast to the dividend irrelevance argument of Miller and Modigliani (1961), all the interviewees considered dividend policy to be an important decision for their firms. A number of factors were mentioned by interviewees as factors affecting the formulation of their firms' dividend policy.

Generally this chapter presented the results of the structured record reviews and in depth interview and then discussed the analysis of these results jointly. Table 4.7 below summarizes the comparison of the test result for determinants of dividend policy with the hypothesized expectations. As shown in the table 4.7, the test result of the variables was consistent with the hypothesis presented in section 4.1 except for size and leverage which

were found to be statistically insignificant. The next chapter will discuss the conclusions and recommendations of the study.

Table 4.7 Comparison of the Test Result with the Expectation

Independent variables	**Expected Relationships with DPO**	**Actual result**	**Statistical Significance test**
Growth	-	-	significant
Liquidity	+	+	significant
Leverage	-	-	insignificant
Profitability	+	+	significant
Size	+	-	insignificant

Chapter five

Conclusions and recommendations

The preceding chapter presented the results and discussion, while this chapter deals with conclusions and recommendations based on the findings of the study. Accordingly this chapter is organized into two subsections. Section 5.1 presents the conclusions and section 5.2 presents the recommendations.

5.1. Conclusions

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 insurance companies in Ethiopia. In order to achieve this objective, two research questions and five hypotheses have been developed. To address the research questions, test hypotheses and achieve the broad research objective, the study used mixed research approach. More specifically, the analyses were performed using data derived from the financial statements of insurance companies in Ethiopia during a nine-year period from 2003-2011 and in-depth interview with company officials. Nine insurance companies were selected as a sample from fourteen insurance companies currently operating in Ethiopia. Random effect model was used to estimate the regression equation. In the study profitability, growth, size, liquidity and leverage were considered as independent variables while dividend policy was considered as dependent variables. With regard to in-depth interviews, the study conducted interview with eight insurance companies' financial managers.

The results of the regression analysis showed significant positive relationships between dividend payout and profitability and liquidity. The results suggested that, profitable insurance companies tend to pay high dividend. This result was in line with the pecking order and signalling theory of the dividend policy theory. A positive relationship between dividend payout and liquidity implies a good liquidity position increases insurance companies' ability to pay dividend. The results also showed significant negative associations between dividend payout and growth. The results suggested that, growing insurance companies require more funds in order to finance their growth and therefore they would typically retain greater proportion of their earnings by paying low dividend. The significant negative coefficient on the growth variable supported the pecking order and agency cost argument. Contrary to the theoretical predictions, the study found that size and leverage were insignificant in influencing the dividend payout decision of insurance companies in Ethiopia.

Additionally, the discussions with the interviewees suggested that Ethiopian insurance companies devote considerable time and attention to dividend policy. In contrast to the dividend irrelevance argument of Miller and Modigliani (1961), all the interviewees considered dividend policy to be an important decision for their firms. Moreover, the discussions demonstrated that a broad interdependency of investment, financing and dividend policies exists in Ethiopian insurance industry and decisions about dividends were not taken in isolation but were considered alongside the investment and financing needs of firms in order to maximize the shareholders value.

Besides, Ethiopian insurance companies do not appear to have specific formulas or target payout for establishing dividend payout levels. Most of the firms interviewed did not have target ratios; instead, there is up and down in the payout ratio from year to year.

In general, the results suggested that more profitable and high liquid insurance companies pay more dividends while insurance companies with high growth opportunities tend to pay lower dividends. Also the study clearly showed that profitability, liquidity and growth were the three most important factors affecting dividend policy of insurance companies in Ethiopia.

5.2. Recommendations

On the basis of the findings of this study, the researcher has drawn the following recommendations

- Ethiopian insurance companies' managers should give consideration to profitability, liquidity and growth when they set dividend policy as they are found to be the most significant variables that affect dividend policy of insurance companies. This will help them to make their dividend payout decision efficient, effective and reasonable which in the long run will help them to achieve their objective (maximizing profit) and satisfy employees and shareholders needs.
- Understanding the determinants of dividend policy has significant implication on individual investor's investment policy depending on his/her dividend preference. Since, in the absence of secondary market, where searching and brokerage costs are high, it is difficult for an individual investor to shift easily and construct his or

her own dividend policy by buying and/or selling existing stocks. Besides, investors who want to select the paying dividend firms might have to look into the three mentioned factors before selecting the companies.

- Future research could be directed towards various directions. First, the inclusion of additional variables such as the number of directors, insider ownership, institutional ownership, age, and business risk of the firm could be examined. Second, the application of macroeconomic variable is another potential extension of the present research. Finally, the investors 'views towards dividend policy were uncovered by the findings and so it can be explored by future researchers.

References

Adjaoud, F and Ben-Amar, W 2007, 'Corporate Governance and Dividend Policy: Shareholders' Protection or Expropriation?', *Journal of Business Finance & Accounting*, Vol-37 No.5, pp.648–667.

Ahmed, H and Javid, A Y 2009, 'Determinants of Dividend Policy in Pakistan', *International Research Journal of Finance and Economics*, Issue 29, pp. 110-125.

Aivazian, V, Booth, L and Cleary, S 2003, 'Do emerging market firms follow different dividend policies from U.S. firms? ', *Journal of Financial Research*, Vol. 26 No. 3, pp. 371-387.

Aivazian, V, Booth, L and Cleary, S 2006,' Dividend smoothing and debt ratings', *Journal of Financial and Quantitative Analysis,* Vol.41, pp.439-453.

Al-Ajmi, J and Hussain, H 2011,'Corporate dividends decisions: evidence from Saudi Arabia', *The Journal of Risk Finance*, Vol. 12 No. 1, pp. 41-56.

Al-Kuwari, D 2009, 'Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of GCC Countries', *Global Economy & Finance Journal,* Vol. 2 No. 2 September, pp. 38-63.

Allen, F , Antonio, E B, and Ivo, W 2000, 'A Theory of Dividends Based on Tax Clienteles', *Journal of Finance,* Vol. 55, pp.2499-2536.

Alli, K L, Khan, A Q and Ramirez, G G 1993, "Determinants of Corporate Dividend Policy: A factorial Analysis", *The Financial Review* Vol. 28, pp. 523-547.

Al-Malkawi, H N 2007, 'Determinant of Corporate Dividend Policy in Jordan', *Journal of Economic and Administrative Science*, Vol-23, pp. 44-71.

Al-Najjar, B and Hussainey, K 2009, 'The Association between Dividend Payout and Outside Directorships', *Journal of Applied Accounting Research,* pp. 1-28.

Al-Twaijry, A 2007,' Dividend policy and payout ratio: evidence from the Kuala Lumpur stock exchange', *The Journal of Risk Finance,* Vol. 8 No. 4, pp. 349-363.

Al-Yahyaee, K 2006,'Capital Structure and Dividend Policy in a Personal Tax Free Environment: The Case of Oman', PhD Thesis, University of New South Wales.

Amidu, M and Abor, J 2006, 'Determinants of Dividend Payout Ratios in Ghana', *The Journal of Risk Finance,* Vol-7 (2), pp.136-145.

Anderson, D R, Sweeney, D J and Williams, T A 2008, *Statistics for business and economics,* Thomson South-Western.

Anil, K and Kapoor, S 2008, 'Determinants of dividend payout ratios a study of Indian information technology sector', *International Research Journal Finance and Economics*, Vol-15, pp. 1-9.

Baker, H , Powell, G and Veit, E 2002, 'Revisiting Managerial Perspectives on Dividend Policy', *Journal Of Economics And Finance* ,Vol.26 No 3, Fall,pp.267-283.

Baker, H K 1999, 'Dividend policy issues in regulated and unregulated firms: a managerial perspective', *Managerial Finance*, Vol. 25 No. 6, pp. 1-19.

Baker, H K and Powell, G E1999,'How Corporate Managers View Dividend Policy', *Quarterly Journal of Business & Economics,* Vol-38, 17.

Berkley, R and Myers, S 2005, *Principles of corporate finance*, 8th edition, London: McGraw-Hill.

Bhattacharya, S 1979, 'Imperfect information, dividend policy and the bird in the hand fallacy', *Bell Journal of Economics,* Vol-10, pp.259-270.

Black, F 1976, 'The Dividend Puzzle', *Journal of Portfolio Management,* Vol.2, pp 5-8.

Black, F and Scholes, M 1974,'the effects of dividend yield and dividend policy on common stock prices and returns', *Journal of Financial Economics*, Vol. 1 No.1, pp.1-22.

Brealey, R A, Myers, S C and Marcus, A J 1999, *Fundamentals of Corporate Finance*, 4th ed. London; Prentice Hall.

Brealey, R, Myers, S and Allen, F 2008, *Principles of corporate finance*, 9th ed., McGraw Hill, Australia.

Brigham, E F and Daves, P R 2002. *Intermediate Financial Management*, Thompson Learning Inc.

Brooks, C 2008, *Introductory Econometrics for Finance*, 2nd edn, Cambridge University Press, New York.

Chang, R P and Rhee, S G 1990, 'The Impact of Personal Taxes on Corporate Dividend Policy and Capital Structure Decisions', *Financial Management*, Vol. 19 No. 2, pp. 21-31.

Chen, J and Dhiensiri, N 2009, 'Determinants of Dividend Policy: The Evidence from New Zealand', *International Research Journal of Finance and Economics,* Issue 34, pp. 18-28.

Chigazie, O G. 2010, 'A Diagnosis of the Determinant of Dividend Pay-Out Policy in Nigeria: A Factor Analytical Approach', *American Journal of Scientific Research*, Issue 8(2010), pp.57-67

Cooper, D C, and Schindler, P S 2009, *Bussiness research methods*, 9th edn, Tata McGraw-hill , New Delhi.

Creswell, J.W. 2009, *Research design: Qualitative, Quantitative and Mixed Method approach*, third edition, U.S: SAGE publication, Inc.

D'Souza, J 1999, 'Agency cost, Market Risk, Investment opportunities and dividend Policy', *Journal of Manager Financials*, Vol 25, Nov

Davies, T and Pain, B 2002, *Business Accounting & Finance*, London, McGraw-Hill.

Dickens, R N, Casey, M and Joseph, A K 2002,' Bank Dividend Policy: Explanatory Factors', *Journal of Business and Economics*, Vol. 41, No. ½,Winter - Spring, pp. 3-12

Dong, M, Robinson, C and Veld, C 2005, 'Why individual investors want dividends', *Journal of Corporate Finance,* Vol.12, pp.121-58.

Doughty, M 2000, *The Joy of Money*, London; Simon & Schuster UK Ltd.

Easterby-smith, M, Thorpe, R and Lowe, A 1991, *Management Reseach: An Introduction,* London, Sage Publications Inc.

Fama, E and Babiak, H 1968, 'Dividend policy of Individual Firms: an Empirical Analysis', *Journal of the American Statistical Association*, Vol.63, pp. 1132-1161.

Fama, E F and French, K R 2000,'Disappearing dividends: Changing firm characteristics or lower propensity to pay?', *Journal of Financial Economics,* Vol-60, pp. 3-43.

Ferri, M G and Jones, W H 1979. 'Determinants of financial structure: a new approach', *Journal of Finance*, Vol.34, pp.631-44.

Fowdar, S , Subadar, U A, Lamport,M , Sannassee, R V and Boodhoo, S 2007, 'Motivators of Dividend Payout among Firms listed on the Stock Exchange of Mauritius', *UoM Research Journal* ,Vol.13A , pp.103-116.

Freeman, R 1984,'longitudinal analyses of the effects of trade unions', *Journal of Labor Economics*, Vol.2 No. 1, pp.1-26.

Gill, A, Biger, N and Tibrewala, R 2010, 'Determinants of Dividend Payout Ratios: Evidence from United States', *The Open Business Journal,* Vol-3, pp. 8-14

Gordon M., J 1963, 'Optimal Investment and Financing Policy', *Journal of Finance*, May, pp. 264-272.

Gordon, M 1962, 'The savings, investment and valuation of a corporation', *Review of Economics and Statistics*, pp.37-51.

Gordon, M J 1959,'Dividends, earnings and stock prices', *Review of Economics and Statistics*, pp. 99-105.

Gugler, K 2000, 'Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and capital investment', *Journal of Banking & Finance*, Vol-27, pp.1297-1321.

Gujarat, D. N. (2003) *Basic Econometric.* 4th International edn. USA: McGraw–Hill

Hair, J F, Tatham, R L, Anderson, R E and Black, W C 2006, *Multivariate data analysis,* New York, Prentice Hall.

Higgins, R C 1972, 'The corporate dividend-saving decision', *Journal of Financial and Quantitative Analysis*, Vol. 7 No.2, pp.1527-1541.

Ho, H 2003,'Dividend Policies in Australia and Japan', *International Advances in Economic Research*, Vol. 9 No. 2, pp. 91-100.

Holder, M E, Langrehr, F W and Hexter, J L 1998, 'Dividend Policy Determinants: An Investigation of the Influences of Stakeholder Theory', *Financial Management*, Vol. 27 No. 3, pp. 73-82.

Hussey, J and Hussey, R 1997. *Business Research: A practical guide for undergraduate and postgraduate students,* New York, PALGRAVE.

Imran, K 2011, 'Determinants of Dividend Payout Policy: A Case of Pakistan Engineering Sector', *The Romanian Economic Journal,* Vol-41, pp. 47-59.

Jensen, G, Solberg, D, and Zorn, T 1992, 'Simultaneous Determination of Insider Ownership, Debt, and Dividend Policies', *Journal of Financial and Quantitative Analysis,* Vol. 27, pp. 247-263.

Jensen, M and Meckling, W 1976, 'Theory Managerial Behaviours, Agency Cost and Ownership Structure', *Journal of Financial Economics*,Vol-3,pp 305-360.

John, K and Williams, J 1985,'Dividends, Dilution, and Taxes: A Signalling Equilibrium', *Journal of Finance,* Vol-40, pp. 1053-1070.

Johnson, R B, and Onwuegbuzie, A J 2004,'Mixed methods research: A paradigm whose time has come', *Educational Researcher,* Vol.33 No.7, pp. 14–26.

Kinfe, T 2011,' Determinants of dividend payout: an empirical study on banking industry in Ethiopia, 2006-2010, Master thesis, Addis Ababa University.

Kolb, R W and Rodriguez, R J 1996, '*Financial Management'*, 2nd edition, Blackwell Publishers, Cambridge.

Kowaleski, O, Stetsyuk I and Talavera, O 2007, 'Corporate Governance and Dividend Policy in Poland', *Wharton Financial Institutions Centre Working Paper* No. 07-09.

Lasher, W 2000, *Practical Financial Management*, 2nd ed, Thomson South-Western.

Lee, S W 2006, 'Determinants of dividend policy in Korean banking industry', *Banks and Bank Systems,* Vol. 4, pp.67-71.

Lintner, J. 1956,'Distribution of incomes of corporations among dividends, retained earnings, and taxes', *American Economic Review*, Vol. 61, pp. 97-113.

Mack, N, Woodsong, C, MacQueen, K M, Guest, G, and Namey, E 2005, *Qualitative Research Methods. A Data Collector's Field Guide.* Durham: Family Health International. [In particular Module 1: Qualitative Research Methods Overview. pp. 1-12.

Malhotra, N 2007, *Marketing research; an applied orientation,* 5th edition, PHI, New Delhi

Marfo-Yiadom, E and Agyei, S A 2011, 'Determinants of Dividend Policy of Banks in Ghana', *International Research Journal of Finance and Economics*, Issue 61, pp 99-108.

Mihretu, M W 2010,' Assessment of the reinsurance business in developing countries: Case of Ethiopia', Master thesis, University of South Africa.

Miller, M H, and Modigliani, F 1961, 'Dividend Policy, Growth, and the Valuation of Shares', *Journal of Business* Vol. 34, pp. 411-433.

Miller, M H, and Modigliani, F 1963, 'corporate income, taxes and the cost of capital: A Correction', *American Economic Review,* Vol-53, pp.433-443.

Mueller, D C 1972. 'A Life Cycle Theory of the Firm', *Journal of Industrial Economics', Vol*-20 No.3, pp. 199-219.

Myers, S C 1984,'the Capital Structure Puzzle', Journal of Finance, Vol. 13(8), pp. 575.

Myers, S C and Majluf N S 1984, 'Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have', *Journal of Financial Economics*, Vol. 13, pp. 187-221.

Naceur, S, Goaied, M and Belanes, A 2006, 'On the determinants and dynamics of dividend policy', *International Review of Finance*, Vol. 6, pp. 1-23.

National Bank of Ethiopia. 2008. *Annual Report*. Addis Ababa: National Bank of Ethiopia. Available from: www.nbe.org.et

Parua, A and Gupta, A 2009,' Dividend history and determinants in selected Indian companies', *Australasian Accounting Business and Finance Journal*, Vol. 3(4), pp.45-86.

Pruitt, S W, Gitman, LW 1991,'The interactions between the investment, financing, and dividend decisions of major US firms', *Financial Review*, Vol. 26 No.33, pp.409-30.

Redding, L 1997, 'Firm Size and Dividend Payouts', *Journal of Financial Intermediation*, Vol.6, pp.224-248.

Ross, S A 1977, 'The determination of financial structure: the incentive-signalling approach', *Bell Journal of Economics,* Vol-8, pp.23-40.

Ross, S A, Westerfield, R W, and Jordan, B W 2003 , *Fundamentals of Corporate Finance,* Sixth Edition, The McGraw–Hill Companies

Schaefer, C 1992, 'The politics of Banking: The Bank of Abyssinia', *The International Journal of African Historical Studies,*Vol-*29(2)*, pp.1905-1931.

Schulz, S 2003, Views on the Combination of Qualitative and Quantitative Research Approaches, *Progressio*, Vol.25 No.2, pp. 8-20.

Smith, A, and Chamberlain, D 2009, *Opportunities and challenges for micro insurance in Ethiopia: An analysis of the supply side and regulatory environments,* Oxfam America.

Titman, S and Wessels, R 1988, 'The Determinants of Capital Structure', *Journal of Finance,* Vol.43, pp.1-19.

Walter, J E 1963, 'Dividend Policy: Its Influence on the Value of the Enterprise', *Journal of Finance,* Vol. 18, pp.280-291.

Wang, K, Erickson, and Gau, G W 1993, 'Dividend Policies and Dividend Announcement Effects for Real Estate Investment Trusts', *Journal of the American Real Estate and Urban Economics Association,* Vol. 21, No.2, pp.185-201.

Watson, D and Head, A 2005, *Corporate Finance: Principles and Practice,* New York, Pearson Education.

Wooldridge, J M 2006, *Introductory Econometric: A Modern Approach.* International Student edition, 3rd ed, Canada: Thomson South–Western.

Zeleke, H 2007, *Insurance in Ethiopia: Historical Development, Present Status and Future Challenges*, Master Printing Press P.L.C, Addis Ababa, Ethiopia

Appendices

Appendix 1: List of Insurance Companies

No	Name	Establishment date
1	Ethiopian Insurance Corporation	1975
2	National Insurance Company of Ethiopia	23/09/1994
3	Awash Insurance Company S.C.	1/10/1994
4	United Insurance Company S.C.	1/04/1997
5	Africa Insurance Company S.C.	1/12/1994
6	Nile Insurance Company S.C.	11/04/1995
7	Nyala Insurance Company S.C.	6/01/1995
8	Global Insurance Company S.C.	11/01/1997
9	Nib Insurance Company S.C.	1/05/2002
10	Lion Insurance Company S.C.	1/07/2007
11	Ethio-Life Insurance Company S.C.	23/10/2008
12	Oromia Insurance Company S.C	26/01/2009
13	Abay Insurance Company S.C.	26/07/2010
14	Berhan insurance S.C.	24/05/2011

Source: www.nbe.org.et surfed at May 14, 2012

Appendix 2: Instrument for Unstructured face- to-face interview on the determinants of dividend policy of insurance companies in Ethiopia

1. How important are dividend payout decisions relative to investment and financing decisions?
2. Does the payment of dividend have impact on your company? In what way?
3. Who sets the amount of dividend to be paid?
4. How do you see your company dividend policy?
5. What are the main factors that affect the payout policy of your company?
6. How important are the following factors to your company's dividend decisions and their relationship to your company dividend policy?
   a. Profitability
   b. Liquidity
   c. Growth
   d. Size
   e. leverage

Do you have any comments on the interview?

Appendix 3: regression analysis-REM

Dependent Variable: DPO
Method: Panel EGLS (Cross-section random effects)
Date: 05/16/12 Time: 00:26
Sample: 2003 2011
Periods included: 9
Cross-sections included: 9
Total panel (balanced) observations: 81
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.085665	0.630571	1.721718	0.0892
GRO	-0.354526	0.172759	-2.052135	0.0436
LIQ	0.115496	0.050561	2.284302	0.0252
PROF	4.106691	0.854145	4.807958	0.0000
SZ	-0.044078	0.051072	-0.863057	0.3909
LEV	-0.038179	0.565521	-0.067512	0.9464

Effects Specification		
	S.D.	Rho
Cross-section random	0.007265	0.0009
Idiosyncratic random	0.239248	0.9991

Weighted Statistics

R-squared	0.370268	Mean dependent var	0.645675
Adjusted R-squared	0.328286	S.D. dependent var	0.287085
S.E. of regression	0.235289	Sum squared resid	4.152081
F-statistic	8.819646	Durbin-Watson stat	1.922656
Prob(F-statistic)	0.000001		

Unweighted Statistics

R-squared	0.370449	Mean dependent var	0.648349
Sum squared resid	4.154470	Durbin-Watson stat	1.921550

Appendix 4: Hausman test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.538717	5	0.7707

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
GRO	-0.376532	-0.354526	0.011868	0.8399
LIQ	0.104249	0.115496	0.001377	0.7619
PROF	4.658175	4.106691	0.440649	0.4061
SZ	-0.073697	-0.044078	0.015933	0.8145
LEV	-0.028040	-0.038179	0.882469	0.9914

Cross-section random effects test equation:
Dependent Variable: DPO
Method: Panel Least Squares
Date: 05/16/12 Time: 00:29
Sample: 2003 2011
Periods included: 9
Cross-sections included: 9
Total panel (balanced) observations: 81

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.626940	1.897001	0.857638	0.3941
GRO	-0.376532	0.204241	-1.843571	0.0697
LIQ	0.104249	0.062720	1.662132	0.1012
PROF	4.658175	1.081763	4.306095	0.0001
SZ	-0.073697	0.136165	-0.541233	0.5901
LEV	-0.028040	1.096487	-0.025572	0.9797

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.418853	Mean dependent var	0.648349
Adjusted R-squared	0.306093	S.D. dependent var	0.287209
S.E. of regression	0.239248	Akaike info criterion	0.133289
Sum squared resid	3.835048	Schwarz criterion	0.547144
Log likelihood	8.601804	Hannan-Quinn criter.	0.299333
F-statistic	3.714558	Durbin-Watson stat	2.102791
Prob(F-statistic)	0.000188		

Appendix 5: Heteroskedasticity Test

Heteroskedasticity Test: White

F-statistic	1.532506	Prob. F(20,60)	0.1037
Obs*R-squared	27.38727	Prob. Chi-Square(20)	0.1247
Scaled explained SS	21.93622	Prob. Chi-Square(20)	0.3440

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 05/28/12 Time: 03:26
Sample: 1 81
Included observations: 81

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.959727	4.732530	0.202794	0.8400
GRO	5.154099	2.590513	1.989606	0.0512
GRO^2	-0.307029	0.211856	-1.449235	0.1525
GRO*LIQ	-0.209035	0.174261	-1.199548	0.2350
GRO*PROF	3.668685	3.307267	1.109280	0.2717
GRO*SZ	-0.326640	0.201832	-1.618374	0.1108
GRO*LEV	1.983177	1.943821	1.020247	0.3117
LIQ	0.270157	0.897487	0.301014	0.7644
LIQ^2	0.026302	0.037292	0.705287	0.4834
LIQ*PROF	0.962327	0.858497	1.120943	0.2668
LIQ*SZ	-0.029580	0.083160	-0.355698	0.7233
LIQ*LEV	0.204990	0.877094	0.233715	0.8160
PROF	4.939670	11.30447	0.436966	0.6637
PROF^2	10.28968	8.476121	1.213961	0.2295
PROF*SZ	-0.239558	0.830593	-0.288418	0.7740
PROF*LEV	-6.227619	7.971700	-0.781216	0.4377
SZ	0.020332	0.714954	0.028438	0.9774
SZ^2	-0.006364	0.031746	-0.200478	0.8418
SZ*LEV	0.483233	0.662612	0.729284	0.4687
LEV	-5.163484	6.322315	-0.816708	0.4173
LEV^2	-3.216483	4.386860	-0.733209	0.4663

R-squared	0.338114	Mean dependent var	0.051290
Adjus R-squared	0.117486	S.D. dependent var	0.070546
S.E. of regression	0.066273	Akaike info criterion	-2.371666
Sum squared resid	0.263523	Schwarz criterion	-1.750883
Log likelihood	117.0525	Hannan-Quinn criter.	-2.122600
F-statistic	1.532506	Durbin-Watson stat	2.568768
Prob(F-statistic)	0.103678		