Capital Structure and Financial Performance of Insurance Industries in Ethiopia

By Mohammed Getahun

Jimma University

Abstract- An appropriate capital structure is a critical decision for any business organization to be taken by business organization for maximization of shareholders wealth and sustained growth. Thus, the major focus of this study is to investigate empirically firm specific factors such as, firm leverage, growth opportunities, size, risk, tangibility and liquidity were impacts on performance in Ethiopian insurance companies from 2004-2013 annual reports. The results show that firm leverage, Size, tangibility and business risk are significant impact on performance of insurance companies in Ethiopia. While firm growth and liquidity are not clear and statistical proved relationship are obtained from the regression analysis. The results provide strong evidence in support of the pecking order theory of capital structure which asserts that leverage is a significant determinant of firms' performance. A significant negative relationship is established between leverage and performance. From the findings the researcher recommended that the sample of insurance companies in Ethiopia use more equity than debt in financing their business activities, this because if the value of business can be enhanced with debt capital, it is dangerous for the firm.

Keywords: capital structure, performance, Ethiopian insurance industry, Returns on asset.

GJMBR - C Classification : *JEL Code: G19*

CAPITALSTRUCTUREANDFINANCIALPERFORMANCEOFINSURANCEINDUSTRIESINETHIOPIA

Strictly as per the compliance and regulations of:

Capital Structure and Financial Performance of Insurance Industries in Ethiopia

Mohammed Getahun

Abstract- An appropriate capital structure is a critical decision for any business organization to be taken by business organization for maximization of shareholders wealth and sustained growth. Thus, the major focus of this study is to investigate empirically firm specific factors such as, firm leverage, growth opportunities, size, risk, tangibility and liquidity were impacts on performance in Ethiopian insurance companies from 2004-2013 annual reports. The results show that firm leverage, Size, tangibility and business risk are significant impact on performance of insurance companies in Ethiopia. While firm growth and liquidity are not clear and statistical proved relationship are obtained from the regression analysis. The results provide strong evidence in support of the pecking order theory of capital structure which asserts that leverage is a significant determinant of firms' performance. A significant negative relationship is established between leverage and performance. From the findings the researcher recommended that the sample of insurance companies in Ethiopia use more equity than debt in financing their business activities, this because if the value of business can be enhanced with debt capital, it is dangerous for the firm. Each insurance industry establishes with the aid of professional financial managers, that particular debt-equity mix that maximizes its value and minimizes its weighted average cost of capital.

Keywords: capital structure, performance, Ethiopian insurance industry, Returns on asset.

I. Introduction

The capital structure of a firm describes the way in which a firm raised capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm maintained resulting from the firms financing decisions. In one way or another, business activity must be financed.

Without finance to support their fixed assets and working capital requirements, business could not exist. In all aspects of capital investment decision, the capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. Therefore, proper care and attention need to be given while determining capital structure decision.

The theory of capital structure and its relationship with a firm's value and performance has been a puzzling issue in corporate finance and accounting literature since the Modigliani and Miller

Author: (MSc), Department of Accounting & Finance, college Business and Economics, Jimma University, Ethiopia.
e-mail: mamegetahun@gmail.com

(1958) argue that under the perfect capital market assumption that, if there is no bankrupt cost and capital markets are frictionless, if without taxes, the firm's value is independent with the structure of the capital. Debt can reduce the tax to pay, so the best capital structure of enterprise should be one hundred percent of the debt. Since then, several theories have been developed to explain the capital of a firm including the Pecking order theory, Static Trade-off theory and agency cost theory. The firm's decision about its source of capital will affect its competitiveness among its peers. Therefore, firm should use the appropriate mix of debt and equity that will maximize its profitability.

In connection this, financing the firm's needs, the amount of debt to be undertaken is affected by several factors. Capital structure theory, specifically the trade-off model suggests that firms with high business risks should use less debt than lower risk firms. This because the higher the risk the higher probability that the firm will face financial distress. Furthermore, firms that have tangible asset should use more debt than firms that have more intangible assets since only tangible assets can be used as collateral. Besides, when financial distress occurs, intangible assets will most likely to lose value. It also stated that firms that are paying taxes at higher rates should take more debt since its bankruptcy risks is lesser than the lower taxpayer firms (Brigham, Gapenski and Ehrhardt, 1999).

Pecking order theory that has been introduced by Myers (1977) is also relevant to deviation of capital structure. It states that firms have a preferred hierarchy for financing decisions. The highest preference is to use internal financing before resorting to any form of external fund.

The Agency cost theory lastly states that an optimal capital structure is attainable by reducing the costs resulting from the conflicting between the managers and the owners. Jensen and Meckling (1976) argued that leverage level can be used to monitor the managers to pursue the overall firm's objectives and theirs. By so doing, cost is reduced leading to efficiency which shall eventually enhance firm performance (Buferna et.al, 2005).

Furthermore, capital structure and its impact on performance have been investigated for many years, but researchers have found different results with different contexts. Accordingly, there is no specific result, which can be generalizes on the extent of the relationship

between capital structure and firm performance, thus there is a constant for new research in different context for achieving a more complete understanding for the dynamics of the capital structure and firm performance interchange.

The issues of capital structure are commonly, not given attention in developing countries, such as Ethiopia. The primary reason is that firms in those countries face major financing constraints, such as undeveloped bond markets and ineffective bank lending. It is important for developing countries to better understanding their financial institutions and the nature of their funding sources. The financial managers very important to know issue capital structure decision in these institutions. To them in fulfilling their goals, it is important to provide them with knowledge that relates to various determinants of financing. It would help financial managers to improve their financing decisions regarding their financing mix. By taking into account some key variables that affect their capital structure, financial managers can better achieve their overall performance goals. Therefore, the researcher attempt to clarify someof the key firm characteristics that managers need to consider when setting their optimal capital structure. Thus, the researcher goal is to understand and isolate the effects of firm characteristics on the performance ofinsurance companies in Ethiopia.

a) Objectives of the study

The general objective of this study will be to determine the effect of capital structure to the company's financial performance of some selected insurance companies institutions in Ethiopia. The Specific Objectives of the study are:

1. To investigate the effect of leverage on performance of insurance companies in Ethiopia
2. To determine growth opportunitieson performance of insurance companies in Ethiopia
3. To examine the effect of bank size on performance of insurance companies in Ethiopia
4. To determine the effect tangibility, business risk and *liquidity* on performance of insurance companies in Ethiopia

b) Justification of the Study

The main objective of this study was the impact capital structure on the performance of Ethiopian insurance industry. It provides the applicable and practical teaching to anyone who wishes to understand the topic. In general, this study will cover many aspects of the topic but specifically it has been tried to determine the relationship between of capital structure and performance of the firm. This study especially will help the managers to take the financing decision for their firms. The creditors can also take the benefit to minimize their risk, in funding a specific sector firms. This study will be beneficial to Ethiopian insurance company's

management and investors in making clear decisions on capital structure. In addition to the above, a lot of work is written because of the endless argument on capital structure theories.

This study is another contribution to the existing work on the study of the impact of capital structure on performance of Ethiopian insurance companies.

II. Literature Review

a) Theories of Capital Structure

Capital structure theory, as known today, originates from the work of Modigliani and Miller, hereafter named M&M, who published their famous article in 1958. Many, if not all business and finance academics have heard and know about M&M's capital structure irrelevance proposition and several textbooks within corporate finance begin their explanations of capital structure and cost of capital with the work of M&M. In addition M&M Myers (2002) indicates that the capital structure theories and empirical evidences focus mainly on financing strategy as well as the selection of an optimal debt ratio for a certain type of firm that operates in a distinct institutional environment. According to Myers (2002), these theories are credible not because they do a perfect job highlighting the differences in total debt ratios, but because the costs and benefits that drive the theories at work in financing strategies can beobserved. While there is no universal theory of capital structure, there are however, some relevant conditional theories and these theories can be distinguished in their relative focus on the factors that could significantly impact the right mix of debt and equity. These factors comprise taxes, agency costs, and differences in information, institutional or regulatory constraints and a whole lot more (Myers, 2002). The same author stressed that each of these factors could be very significant for some firms and for other firms they could be highly unimportant. The leading theories are given below. Majority of these theories overlap and a blend of these theories help in explaining capital structure.

Capital structure theory still provides the foundation for many other theories suggested by other researches.

b) Trade-Off Theory

The tradeoff theory model originated from the debate over the M&M's theorem. When corporate tax was added to the original irrelevance proposition of M&M, a benefit for debt is observed that serves to shield earnings from taxes. This theory states that the optimal capital structure is the trade-off between the benefits of debt (i. e., the interest tax shields) and the costs of debt (i. e., the financial distress and agency costs) (Brigham and Houston, 2004).

Firm value

Source: (Brigham & Houston 2004)
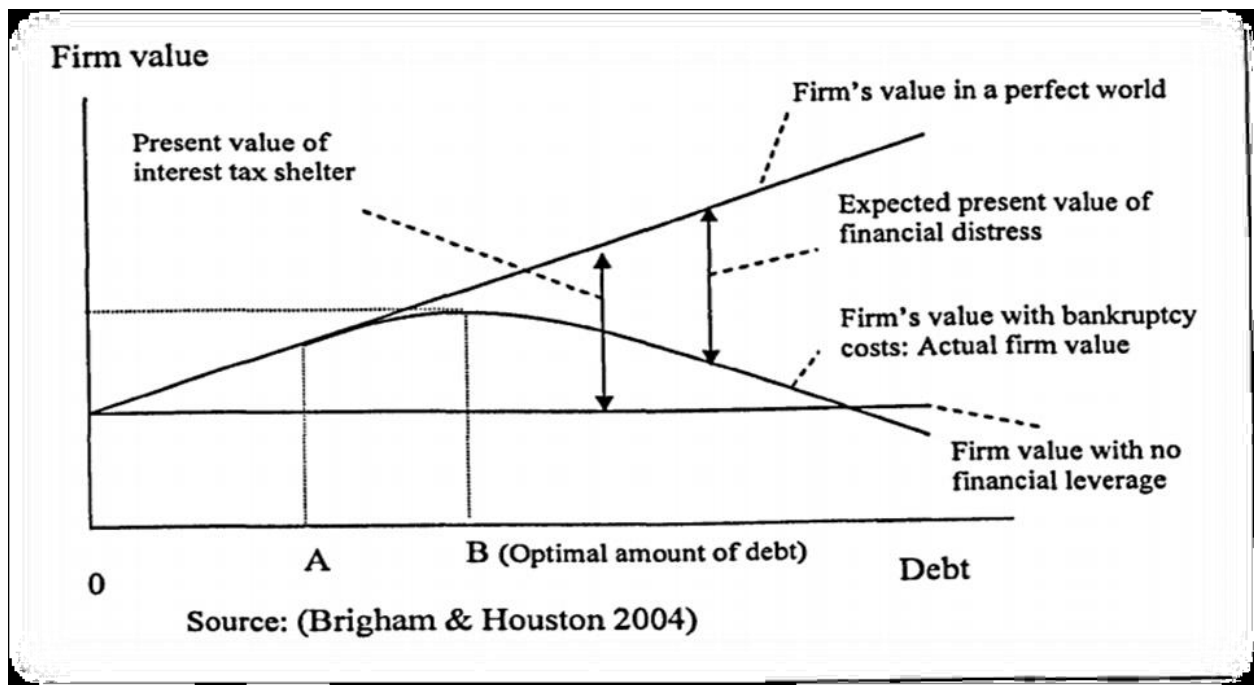
Source: (Brigham & Houston 2004)

Study made by Wippern(1966) investigated relationship between financial leverage and firm performance. In his study he used debt to equity ratio as financial leverage indicator and earning to market value of common stock as performance indicator. His results indicated that leverage has positive effects on firm performance.

Capon et al. (1990) conducted a meta- analysis from 320 published studies related financial performance, and found a positive relationship between usage of leverage levels and financial performance. In 1995 Roden and Lewellen analyzed the impact of capital structure on performance for 48 US based firms with a leveraged buyout during the period 1981 through 1990, using multinomial logit models. Their results indicate a positive relationship between firm performance and its leverage policy based on tax considerations. Their findings were consistent with the trade-off theory.

c) Pecking Order Model

Unlike the trade-off theory, the pecking order theory does not assume an optimal level of capital structure. It states that companies prioritize their source of financing, from internal financing to equity financing, according to the principle of the least resistance, preferring to raise equity as a financing means of last resort. So, the pecking order theory claims that internal funds are used first and only when all internal finances have been depleted, firms will optimum for debt. When it is not sensible to issue any more debt, they will eventually turn to equity as a last financing resource.

Study made by kester (1986) recorded a negative link between capital structure and firm performance in the U.s and Japan. Similar results, negative relationship between capital structure and financial performance, were reported for US firms by friend and Lang (1988) as by Titman and wessels(1988). According to the study Rajan and Zingales(1995) used data from F7 countries and recorded a negative relationship between firm leverage and firm performance.

According the studies of Fama and French also tested the pecking order and the trade-off theories on more than 3000 firms in their publication of 2002. Their study covered the period 1965 to 1999. Their models were based on both cross-section and time series methods in order to check for robustness of their results. They support the pecking order theory by documenting a negative relationship between a firm's leverage and its performance.

According to Minton and Wruck (2001) examined domestic financial conservative firms and their capital structure over the period of 1974 to 1998 and they concluded that the performance of low leverage firms outweigh the performance of high level firms. This thus indicates that there is a negative relationship between leverage and a firm's performance.

d) Agency Cost Theory

The next important theory mentioned in the literature is the agency cost theory. Jensen and Meckling developed this theory in their 1976 publications. This theory considered debt to be a necessary factor that creates conflict between equity holders and managers. Both scholars used this theory to argue that the probability distribution of cash flows provided by the firm is not independent of its ownership structure and that this fact may be used to explain

optimal capital structure. Jensen and Meckling recommended that, given increasing agency costs with both the equity-holders and debt-holders, there would be an optimum combination of outside debt and equity to reduce total agency costs.

e) Capital structure determinants and performance

i. *Firms Leverage*

The pecking theory of capital structure shows that if a firm is profitable, then it is more likely that financing would be from internal sources rather than external sources. In other words, firms tend to use internally generated funds first and then resort to external financing. This implies that profitable firms will have less amount of leverage (Myers and Majluf, 1984). By this, profitable firms that have access to retained profits can rely on them as opposed to depending on outside sources (debt).

Most studies found a negative relationship between profitability and capital structure Friend and Lang, (1988); Barton et al., (1989); Van der Wijst and Thurik, (1993); Chittendenet al., 1996; Jordan et al., (1998); Shyam-Sunder and Myers, (1999); Mishra and McConaughy, (1999);. Cassar and Holmes (2003), and Hall et al. (2004) also suggest negative relationships between profitability and both long-term debt and short-term debt ratios.

ii. *Growth opportunities*

According to Brush, Bromiley, &Hendricks, (2000) in the light of free cash flow hypothesis, they conducted in Maryland-USA found a strong positive relationship between sales growth and a firm's financial performance in terms of stockholders' returns and return on assets.

Additionally, for the top 500 Australian companies. In addition of this Hutchinson and Gul, (2006) they found that firms with high investment opportunities are associated with lower agency costs and better return on equity.

iii. *Firm's size*

According to the studies (Orser, Hogarth-Scott, & Riding 2000), using Canadian firms using changes in gross revenue to reflect performance. They find a positive effect for a firm's size support the arguments that size reflects greater diversification, economies of scale production, greater access to new technology and cheaper sources of funds.

f) Asset structure (tangibility)

i. *Firm's liquidity*

According to the researcher knowledge apart from (Wang, 2002) there is no studies address this relationship. But, (Wang, 2002) and, who addresses the liquidity management. He investigates the liquidity management and its relationship with performance and corporate value using data of Taiwan and Japan. Furthermore, he observes that the cash conversion

cycle (CCC) has a negative relationship with the financial performance measured by returns on assets (ROA) or returns on equity (ROE) and this relationship is sensitive to industry factors. Furthermore, he finds that aggressive liquidity management enhances operating performance.

ii. *Firm's business risk*

Many studies investigate the relationship between risk and profitability. Among others (Shergill & Sarkaria 1999) using the data of Indian firms, they confirm the positive relationship between a firm's risk and financial Performance,(Dewan, Shi, &Gurbaxani 2007) using the Fortune 1000 and the total firm value to reflect performance,(Loudon 2006) for 15 markets, comprising a mix of developed and emerging markets using equity returns.

iii. *Conceptual Frame Work*

After careful study of literature review, the following conceptual model is formulated to illustrate the effects of capital structure on performance. The conceptualization model from figure below shows the effects of capital structure on profitability of Ethiopian insurance companies.

III. Methodology

This section stresses the methodology employed for this work. The process of research usually entails problem identification, making hypothetical statements, collecting relevant data, analyzing the data using the relevant and appropriate statistical tools of analysis.

This paper is based on secondary data collection. The sources of data for this study are Balance sheets and Income Statements of companies over 10 years period from 2004 still 2013, which are mainly extracted from National Bank of Ethiopia, which can provide comprehensive database for all insurance companies. Time series and cross sectional data has been used in this study where 9 commercial banks out of 17 insurance companies have been included in the study in Ethiopia. However, the remaining insurance companies did not have the required period information. Due to this reason, the year service below Ten years is not included in sample frame to make panel data model structured.

a) Model Specification

The multiple regression models used to establish the relationship between capital structure and financial performance was of the specific form;

$$ROA = \beta 0 - \beta 1 LEVit + \beta 2\ GRit + \beta 3\ SIZE\ it + \beta 5\ TANGit + \beta 6 LQit + \beta 4 Brit + eit.$$

Where:

ROA - Return on Asset (performance of the firm)
β0 - Constant coefficient

48

β1 – β6 = Regression coefficients for measuring independent variables
LV = Firm Leverage
GR = growth opportunities
Size = firm size

Tang = tangibility of fixed asset
LQ = liquidity of the firm
Br = business risk.
Uit = Error component showing unobserved factor

b) *Operationalization of Variables*

The description of each variable and their expected signs are given below in the following tables.

Variables	Variable Measurements	Some References	Expected Signs
Firm's leverage	$\dfrac{\text{Total liabilities}}{\text{Total assets}}$	Kyereboah-Coleman (2007), Abor (2005), Titman and Wessels (1988), king and santor, 2008	(-)
Growth opportunities	Change in the total assets	(Degryse, Goeij, &Kappert, 2010), Hovakimian, Opler and Titman, 2001	(+)
Business risk	Standard deviation of operating income/Total Asset	Wald (1999),Kim & Limpaphayom,(1998) and Allen & Mizunot, (1989)	(+)
Size	Natural logarithm of total assets	Holmes, 2003; Panno, 2003; Deesomsak 2004; King and Santor (2008)).	(+)
Asset tangibility	$\dfrac{\text{Total fixed assets}}{\text{Total assets}}$	Titman &Wessels 1988; Gaud *et al.*,2005, Fattouh, Scaramozzino, & Harris 2005	(+)
Liquidity	$\dfrac{\text{Current assets}}{\text{Current liabilities}}$	Kila and Mansoor (2009), Ozkan 2001, Laitinen 200	(+)
μit	Are the error terms		
Dependent variable			
Return on Asset	$\dfrac{\text{Profit after tax}}{\text{Total assets}}$	(Bistrova, Lace, &Peleckienė, 2011 Mehran (1995), Ang, Cole and Line (2000	

IV. RESULTS AND DISCUSSION

a) *Descriptive statistics*

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	90	.0783043	.123769	-.10886	.921629
Lev	90	.520138	.1843834	.02007	.902047
Grow.Opp	90	.352805	1.418099	-.9800652	1 3.16158
Size	90	18.95876	1.090104	16.30014	21.22304
Ta	90	.1410642	.0998923	.000258	.465749
Lq	90	2.633622	1.829073	.103773	11.24678
Br	90	.1602669	.183787	.019253	1.48693

Source: computed from financial statement of Ethiopian insurance companies

As presented in table above, the average value of the performance ratios measured by ROA, sample Ethiopian insurance industry is 7.8 percent (0.0783043), this implies sample Ethiopian insurance companies on average earned a net income of 7.8 percent of total asset with a maximum and minimum value of 0.921629 and -.10886. The standard deviation is 12.4 percent from the average value, which reflects the presence of moderate variation among across the sampled insurance companies.

b) *Regression result*

Regression analysis is a statistical technique used to test the relationship between one dependent variable and one or several independent (predictor) variables.

49

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Lev	-.1673747	.0758574	-2.21	0.030*	-.3184903	-.016259
Grow.Opp	.0038993	.0082162	0.47	0.636	-.0124683	.0202669
Size	.0886285	.0211508	4 .19	0.000**	.0464938	.1307631
Ta	-.3100963	.1231772	-2.52	0.014*	-.5554778	-.0647148
Lq	-.0160876	.0126096	-1.28	0.206	-.0412072	.0090321
Br	.3995292	.0728456	5 .48	0.000**	.2544132	.5446451
_cons	-1.494222	.4170297	-3.58	0.001**	-2.324988	-.6634563
Sigma u	.09529538					
Sigma e	.0989344					
rho	48127097					
R2	0.3720					
No.obs	90					

Regression Result: Fixed effect regression model

*Note * Significant at 1% level, ** significant at 5% level*

ROA = β0 -β1 LEVit + β2 GRit+ β3 SIZEit+β4Brit + β5 TANGit+β6LQit + eit.

ROA=-1.494-0.167LVit + 0.0039Grit + 0.089SIZE it - 0.31TANGit - 0.016LQit + 0.40Briteit.

$\quad\quad$ (0.759) $\quad\quad$ (0.0082) $\quad$ (0.211) $\quad\quad$ (0.073) $\quad\quad$ (0.0123) $\quad\quad$ (0.126)

R2 from the table 4.8, 37.2% variations in the dependent variable can be accounted for by the independent variables. This means 37.2% of variations in the performance of selected Ethiopian insurance companies are explained by independent variable. This showed that the independent variable values have at least 37% significant influence on performance of the Ethiopian insurance companies. This also indicates that there are other variables that influence the variations in the level of performance of the firms.

c) Firm leverage

As presented in table above, panel data results for the analysis method of fixed effects model results show a negative and significant impact on profitability of Ethiopian insurance industry with a regression coefficient of -0.1673747, t-statistic -2.21, P-value of 0.030.

Theoretical prediction yields no conclusion for the relationship between leverage and performance. Trade off models argues that profitable firms have great needs to shield income from corporate tax and should borrow more than less than profitable firms. While pecking order models theory suggests an inverse relationship between leverage and profitability of the firm.

This results has been consistent with Jensen (1986) that if firm leverage acts as a bonding device in terms of forcing managers to commit free cash flows to service debt, then higher debt will lead to lower funds available for managers in profitable investments and then lower performance (Singh & Faircloth 2005).

d) Growth opportunities

The panel fixed effect estimation regression result shows insignificant a positive relationship between growths of sampled Ethiopian insurance companies and their performance ratio with a regression coefficient of 0.0038993, t-statistic of 0.47, p-value of 0.636.

Trade-off theory considers growth opportunities as an indicator for the firm success; these firms are stronger to face financial distress. Firms with good opportunities have a good reputation in getting funds, easier access to the finance markets and reflected in better performance for these firms. According to the agency theory perspective, firms with high growth opportunities have lower agency costs. These firms might have lower debt ratios due to the fear of debt holders those firms may forgo valuable investment opportunities and expropriate wealth to their benefit, and this outcome would be reflected in lower agency costs (Hutchinson & Gul 2006).

e) Firm size

The panel fixed effect estimation result reveals there is significant positive relationship between size and performance of sampled Ethiopian insurance companies with a regression coefficient of .0886285, t-statistic of 4.19, and P-value of 0.000. The significance of firm size on firm performance indicates that large firms canearn higher returns compared to smaller firms, most probably as a result of diversification of investment and economies of scale.

f) Asset tangibility

The panel fixed effect estimation result, in this study, shows a statistical significant negative relationship between tangibility of assets and

performance of Ethiopian insurance companies with a regression coefficient of -.3100963, t-statistic-2.52 and p-value of 0.014. This means that a sampled Ethiopian insurance company with high ratio of fixed assets to total asset leads lower performance of the companies, because in Ethiopia lending financial institutions not require fixed assets as collateral to provide debt to those of insurance companies. The other reason is the fixed asset of Ethiopian insurance companies not able to generate revenue. This shows that firms with high ratio of tangibility have a lower performance ratio. However, the negative relationship between firm's asset tangibility and performance is consistent with similar findings of previous researchers Osuji & Odita, A (2012).

g) Firm Liquidity

A result from fixed effects models shows a negative and insignificant relationship between firm liquidity and performance of Ethiopian insurance industries. Specifically, fixed effect estimation with a coefficient of -0.0160876, t- statistic -1.28 and p-value of 0.206 confirmed a negative relationship between liquidity and performance ratio.

Pecking order theory suggesting that the more liquid firm would use external financing due to their ability of paying back liabilities while trade of theory suggesting that high liquidity position for the firm indicates that this firm is strong enough to face any short or long-term financial problems and this strong firm can perform better than a weak firm which has weak liquidity position in its financial statements.

h) Business risk

Result shows in this study, shows a statistical significant positive relationship between business risk and performance ratio with a regression coefficient 0.3995292, t-statistic-3.58 and p-value of 0.001, which statistical significant positive on performance of Ethiopian insurance companies.

The reason for such relationship due the theoretical prediction of the agency theory; the required rate return from investors should be suitable to their risk in the firm. Shareholders will require high return in order to hold the risk related to the bankruptcy and financial distress since the debt holders have the priority in the case of bankruptcy.

V. Limitation of the Study

♥ The study consists of only ten years of data that might not be sufficient to establish the relation in a very significant manner.
♥ The study considers only secondary data but not primary (i.e., interaction with the executives in finance department would close picture and management style etc. is not considered).

VI. Conclusion and Recommendations

a) Conclusion

Capital structure has been a much debated topic in the finance field since the Modigliani& Miller proposition in 1958. Capital structure theories, such as the pecking order and the tradeoff theory emerged into the finance field and many have tried to analyze the implications of these theories for firms in the market.

The objective of this study is limited to the impact of capital structure on the performance in the context of Ethiopian insurance industries. This paper has applied the panel data regressions for nine insurance companies in Ethiopia during the period 2004 to 2013. All insurance companies included in the study if they had the specified period of time, audited financial statements of ten years. This thesis examined empirically the implication of theory of capital structure in Ethiopian insurance companies. The results of regression analysis disclose that firm leverage, growth opportunities, size, business risk, tangibility of assets and liquidity as independent variable while the profitability the firm (ROA) is dependent variable. The results show that firm leverage, Size, tangibility and business risk are significant effects on performance of Ethiopian insurance companies.

b) Recommendation

The result proves that with the increase in leverage negatively affects the performance Ethiopian insurance industry. Therefore, the researcher recommends that managers shall not use excessive amount of leverage in their capital structure, they must try to finance their projects with retained earnings and use leverage as a last option. Managers must work to achieve the optimal capital structure level to maximize the firm's performance and try to maintain it as much as possible.

In generally, the variable that significant direct relationship between the impacts of capital structure on performance of the firm, the managers should devote their time and efforts on those variables in order to minimize the weighted average cost of capital and consequently maximize the welfare of shareholders.

c) Recommendations for Further Research

The study has laid some ground work to explore the effects of capital structure on performance of Ethiopian insurance industries. Further work is required to develop new hypotheses and design new variables to reflect the firm specific factors to influence on firm performance related with theory of capital structure.

References Références Referencias

1. Brigham, E. F. & Ehrhardt, M. C. 1999, "Financial management: theory and practice", 1lth ed., International student ed. edn, South-Western M, ason, Ohio.

2. Brigham, E. F., Foster, E., & Houston, J. F. 2004, "Fundamental of Financial Management",10th ed., edn

3. Brush, T. H., Bromiley, P., & Hendrickx, M. 2000, "The free cash flow hypothesis for sales growth and firm performance", Strategic Management Journal, vol. 21, no. 4, p. 455.

4. Buferna, F., Bangassa, K. & Hodgkinson, L. (2005). Determinants of Capital Structure: Evidence from Libya. Research Paper Series.

5. Capon, N., Farley, J., & Hoenig, S. (1990). Determinants of financial performance: a metaanalysis. Management Science.

6. Cassar, G. & Holmes, S. 2003, "Capital structure and financing of SMEs: Australian evidence", Accounting & Finance, vol. 43, no. 2, pp. 123-147.

7. Chittenden F, Hall G. and Hutchinson P. (1996). Small Firm Growth, Access to Capital Markets and Financial Structure: Review of Issues and an Empirical Investigation. Small Business Economics 8, 59-67.

8. Fama, E., & Fench, K. (2002). Testing trade-off theory and pecking order predictions about dividends and debt. Review of Financial Studies.

9. Hall, G., Hutchinson, P., and Michaelas, N. (2004). Determinants of the Capital Structures of European SMEs, Journal of Business Finance & Accounting 31, 711-728.

10. Hutchinson, M. & Gul, A. 2006, "The effects of executive share options and investment opportunities on firms accounting performance: Some Australian evidence", British Accounting Review, vol. 38, no. 3, pp. 277-297.

11. Jensen, M. & Meckling, W., 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics, 3, p. 305-60.

12. Kester, C. W. 1986. Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations. Financial Management 15(1): 5-16.

13. Loudon, G. F. 2006, "Is the risk return relation positive? Further evidence from a stochastic volatility in mean approach", Applied Financial Economics, vol. 16, no. 13, pp.

14. Minton, B., & Wruck, K. (2001). Financial Conservatism: Evidence on Capital Structure from low leverage firms.

15. Modigliani, F., and Miller, M. H. (1958,), ―The Cost of Capital, Corporate Finance and the Theory of Investmentǁ, American Economic Review, 48, 261-97.

16. Myers, S. 1977. Determinants of Corporate Borrowing, Journal of Financial Economics, 5: 147-176.

17. Orser, B. J., Hogarth-Scott, S., & Riding, A. L. 2000, "Performance, Firm Size, and Management Problem Solving", Journal of Small Business Management, vol. 38, no. 4, pp. 42-58.

18. Osuji & Odita Anthony (2012), Arabian Journal of Business and Management Review, Vol.1, No.12; July 2012.

19. Rajan, R. and Zingales. L. (1995). what do we know about capital structure? Some evidence from international data. Journal of Finance. **50**. 1421-1460.

20. Shergill, J. & Sarkaria, M. 1999," Impact of Industry Type and Firm Characteristics on Firm-Financial Performance-- Evidence from Indian Industry level"", Journal of Entrepreneurship, vol. 8, no. 1.

21. Shyam-Sanders, L. and Myers, S.C. (1999). ǁTesting Static trade-off against pecking order Models of Capital structure", Journal of Financial Economics, (51): pp.1421- 1460.

22. Van der Wijst N. and Thurik R. (1993). Determinants of Small Firm Debt Ratios: An analysis of Retail Panel Data, Small Business Economics 5, 55-65.

23. Wald, J. (1999). How firm characteristics affect capital structure: an international comparison. Journal of Financial Research, 22, 161-87.

24. Wing, C. C. K. & Yiu, M. F. K. 1997, "Firm size and performance of manufacturing enterprisesin P.R. China: The case of Shanghai's.", Small Businesses conomics, vol. 9, no, 3, p. 287.

25. Wippern, R. (1996). Financial Structure and the Value of the Firm. The Journal of Finance.

APPENDIX

Appendix for Hausman test

---- Coefficients ----

	(b)	(B)	(b-B)	sqrt(diag (V_b-V_B))
	fixed	random	Difference	S.E.
lv	-.1673747	-.0884367	-.078938	.0334373
gr	.0038993	.002613	.0012863	.0008566
size	.0886285	.0464443	.0421841	.0157781
ta	-.3100963	-.1414094	-.1686869	.0288326
lq	-.0160876	-.0054207	-.0106668	.0094598
br	.3995292	.3139315	.0855977	.0238584

```
----------------------------------------------------------------------
        b = consistent under Ho and Ha; obtained from xtreg
    B = inconsistent under Ha, efficient under Ho; obtained from xtreg
        Test:  Ho:  difference in coefficients not systematic
```

$$\text{chi2 (6)} = (b-B)'[(V\_b-V\_B)\,\hat{}\,(-1)](b-B)$$
$$= \quad 62.20$$
$$\text{Prob>chi2} = \quad 0.0000$$

(V_b-V_B is not positive definite)

Appendix for fixed effects regression analysis

```
Fixed-effects (within) regression      Number of Obs   =     90
Group variable: company                Number of groups  =     9
R-sq:  within = 0.3720                  Obs per group: min =    10
       Between = 0.3310                             avg =    10.0
       Overall = 0.2383                             max =    10
                    Date: 08 /05/14 Time: 9:25
       Sample 2004 to 2010              F (6, 75)       =    7.40
   corr(u_i, Xb)  = -0.7622              Prob > F       =   0.0000
```

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lv	-.1673747	.0758574	-2.21	0.030**	-.3184903	-.016259
gr	.0038993	.0082162	0.47	0.636	-.0124683	.0202669
Size	.0886285	.0211508	4.19	0.000*	.0464938	.1307631
ta	-.3100963	.1231772	-2.52	0.014*	-.5554778	-.0647148
lq	-.0160876	.0126096	-1.28	0.206	-.0412072	.0090321
br	.3995292	.0728456	5.48	0.000**	.2544132	.5446451
_cons	-1.494222	.4170297	-3.58	0.001**	-2.324988	-.6634563

```
                      sigma_u | .09529538
                      sigma_e | .0989344
              rho | .48127097   (fraction of variance due to u_i)
```