FINANCIAL DISTRESS AND ITS DETERMINANTS: EMPIRICAL EVIDENCE FROM SELECTED PRIVATE INSURANCE COMPANIES IN ETHIOPIA

1. Bisrat Teklu Woldemariam 2. Dr.Divyang Joshi

1. PhD Candidate, Faculty of Management Studies, Parul University, Gujarat, India

2. Associate Professor, Faculty of Management Studies, Parul University, Gujarat, India

ABSTRACT

Purpose

The motive of this paper is to look at financial distress and its determinants within the case of chosen private insurance companies in Ethiopia.

Design/methodology/approach

From the whole population of 16 private insurance companies in Ethiopia 9 of them were deliberately chosen as test based on their year of foundation and accessibility of the specified information in audited financial statement for the study period of 2010/2011 -2019/2020 with add up to of 90 observations. In arrange to attain the research objectives the study embraced quantitative strategies of research approaches and applied Altman's Z-Score EMS model as intermediary for financial distress with its fixed effect estimate to test an arrangement of hypotheses.

Findings

The study concludes that sampled insurances were within the secure zone (Z >2.6) and profitability, liquidity; capital adequacy ratio and leverage are the major determinants of financial distress of chosen private insurance companies in Ethiopia.

Originality/value

The findings may offer assistance to private insurance companies in order to handle capital to asset ratios, liquidity, and add up to liabilities in noteworthy ways. The prior studies centers within the same point but considered both banking and insurance segments in Ethiopia. In this study the insurance segment is analyzed independently. The assist research can be carried out considering ages of firm and management efficiency with larger sample measure.

Keywords: *Altman's z-score, Determinants, Ethiopia, Financial Distress, Private Insurances.*

1. INTRODUCTION

The significance of financial industry for worldwide financial advancement is developing quickly in today's society. The financial framework within the economy comprises financial institutions, financial instruments and financial markets which give an effective payment system, risk exchange and facilitates exchanging of funds from savers to the borrower's all through the economy (Suheyli, 2015). The affect of globalization and progression of innovation plays a key part within the developing of financial segment acknowledgment and worldwide financial advancement inside and out (Douglass, 2011).

In a few cases, financial institutions may drop inside the situation of financial distress (FD): it's a circumstance where the institutions are going to be incapable to fulfill its commitments to partners due to shortcoming in money related & administrative capabilities which leads them to bankruptcy (Koller, 2011).

Ethiopia's insurance firm to boot one among the financial institution segments which deliver one of a kind financial services by serving the social orders in overseeing risk (Kihara, 2012).

Currently in Ethiopia there are 17 insurance companies, 9 of them are composite insurance implies executing both general insurance and life protections and out of the 17 insurance companies 1 is state claimed and the rest 16 are private possessed protections companies. These insurance companies are currently engaged in providing life, fire, accident, causality, and lots of other varieties of insurance services (NBE, 2017).

There are a developing number of studies such as Haregewayin (2017), Robel (2018), and Goitom (2019) as of late that test the determinants of a firm's financial trouble. In later considers the attentions of researcher's centers to financial wellbeing of the financial segment since of its significance in solvency estimation. In any case, inside the setting of the insurance division especially in creating nations like Ethiopia adequate consideration has not however been given. In this respect the essential reason of this study is to spot components that cause financial distress in private insurance sector of Ethiopia and to look at the relationship between financial distress, and its determinants.

1.1 RESEARCH OBJECTIVES

The main objective of the study was to examine financial distress and its determinants from selected private insurance companies in Ethiopia.

The specific objectives were:-

- To examine the effect of firm specific factors such as profitability, liquidity, capital adequacy, leverage and firm size on the financial distress of selected private insurance companies in Ethiopia.
- To investigate the effect of macroeconomic factors such as Growth domestic products (GDP) and inflation on the financial distress of selected private insurance companies in Ethiopia.

1.2 RESEARCH HYPOTHESES

The following hypotheses are developed;

H_1: Profitability has negative and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

H_2: Liquidity has negative and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

H$_3$: Capital Adequacy Ratio (CAR) has negative and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

H$_4$: Financial Leverage has positive and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

H$_5$: Firm size has negative and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

H$_6$: Gross domestic product (GDP) has negative and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

H$_7$: Inflation has positive and statistically significant effects on financial distress of selected private insurance companies in Ethiopia.

2. LITERATURE REVIEW

2.1 Definition of Financial Distress

Purnanandam (2005) defines financial distress as a company's inability to pay its bills. When confronted with the price of financial crisis, he builds a theoretical risk management model for organizations. Financial distress is a transitory stage between solvency and insolvency in the financial world. A corporation is in jeopardy when it misses interest payments or breaches financial covenants.

2.2 Theoretical Review

There are various ideas that can be used to characterize the features of a corporation in financial distress, according to Altman & Hotchkiss (2006) and Aziz & Dar (2006). These theories include: Liquid Asset Theory, Liquidity and Profitability Theory, Entropy Theory, Gambler's Ruin Theory, Cash Management Theory and Credit Risk Theory.

2.2.1 Liquid Asset Theory

A firm is considered as a reservoir of liquid assets that is supplied by inflows and drained by outflows, according to the liquid asset theory. Firms with positive cash flow are able to raise capital and borrow from the capital market, whereas firms with negative or insufficient cash flow are unable to borrow and hence face the risk of default (Beaver, 1966).

When this year's profit or income is negative, a corporation is presumed to go bankrupt (default), according to Scott (1981). Beaver (1966) proposed that the model be explained in terms of a cash flow, with a firm being considered as a reservoir of liquid assets that is replenished by inflows and depleted by outflows. The reservoir could act as a cushion or buffer against flow changes. The firm's solvency will be determined by the likelihood that the reservoir will be depleted, at which point the firm will be unable to pay its commitments as they mature, potentially leading to failure. It was argued that firms with positive cash flow are able to raise their capital and borrow from the capital market, while firms with negative or insufficient cash inflow are unable to borrow and thus, face the danger of default (Beaver, 1966).

2.2.2 Liquidity & Profitability Theory

If the firm's indicators of liquidity and profitability are good, it is viewed as healthy, but if the signs are bad, it is perceived as sick and at risk of bankruptcy. These indicators are divided into two categories: liquidity and profitability. A good and high score on these two factors indicates a lesser chance of financial trouble and insolvency (Hashi, 1997).

The obvious flaw in this hypothesis is that a company can fail even if its profitability is high. If the revenue flow is insufficient to support expenditure and the firm is severely indebted, the firm may be unable to meet its commitments (Laitinen, 1991).

Profitability alone does not ensure a firm's financial health, as we can see from the theory's flaws, because inability to pay present commitments might arise even in profitable enterprises if cash inflow and outflow are not balanced.

2.2.3 Entropy Theory

Financial distress, according to Aziz & Dar (2006), can be detected by keeping a close eye on the changes in their balance sheets. If a company's financial accounts reflect significant changes in the assets and liabilities on its balance sheet over a reasonable amount of time, it's more probable that the company won't be able to keep the balance (Monti & Moriano, 2010).

According to Natalia (2007), Entropy theory examines changes in the structure of balance sheets using Univariate Analysis (UA) and Multiple Discriminate Analysis (MDA).Univariate Analysis is the application of a single accounting-based ratio indicator to analyze each firm's distress risk; as a result, it is used to identify a company as distressed or non-distressed.

2.2.4 Gambler's Ruin Theory

According to Espen (1999), Feller established the gambler ruin theory in 1968, based on the probability of a gambler winning or losing money by chance. In each period, the gambler starts with a positive cash balance, winning a dollar with probability p and losing a dollar with probability (1-p). The game will continue until the gambler has run out of money.

According to Aziz and Dar (2006), the theory implies that a firm has a certain quantity of cash on hand that enters and exits the firm at random based on the organization's operations. The company's cash flow could be positive or negative at any one time. There is one conceivable composite probability that cash flow will always be negative throughout a number of periods. As a result of this situation, the company would be forced to declare bankruptcy due to a lack of capital. The main weakness of this theory is that it assumes that a company starts with a certain amount of cash; that means, the company has no access to securities markets and the cash flows are results of free tryouts.

2.2.5 Cash Management Theory

Cash management theory, according to Aziz and Dar (2006), focuses on managing cash flows into and out of the firm, as well as cash flows inside the firm and cash balances retained by the firm for a period of time through financing deficiency or investment surplus cash.

Each company's short-term cash balance management is a crucial challenge. This is frequently the case since precisely predicting cash flows is challenging, and cash outflows and inflows do not always match (Wang & Moines, 2012). Cash outflows will surpass cash inflows at some periods due to payments for taxes, dividends, or seasonal inventory. At other times, cash inflows will exceed cash sales, and debtors will be able to realize large sums of money quickly (Goswami et al, 2014).

According to proponents of cash management theory, a company must control cash inflows and outflows to avoid fund imbalance. Inequality between cash inflows and outflows indicates that the firm's cash management function has failed. Because of these facts, management must pay close attention to the cash management function of the firm in order to avoid financial distress and, as a result, business failure. As a result of these facts, management must pay close attention to the cash management function of the firm in order to avoid financial distress (Jahur and Quadir, 2012).

2.2.6 Credit Risk Theory

According to Nyunja (2011), credit is the providing of goods and services to an individual or business on agreed-upon terms and conditions, with or without interest payments due later. Not all debtors will pay their bills when they are due during the contract time. When a debtor fails to pay their bills by the due date, the lender is exposed to credit risks, which can lead to default.

Credit risk (CR) refers to the risks that arise as a result of a bank or other financial institution providing loans or credits to both individuals and various economic sectors, with the inability to demand repayment of its rights represented by the loan principal and interest within the maturity period, or the ability to pay it back but not wanting to, for various reasons (Nyunja, 2011).

Wilson (1997), states that credit is due. Risk cycles closely track economic cycles, thus a worsening economy would be accompanied by downgrades and an increase in defaults. Here, a firm's default probability may be a function of macroeconomic variables such as unemployment, interest rates, growth rate, government spending, currency rates, and aggregate savings, among others. Effective credit risk management is the process of creating a suitable credit environment, functioning under a sound credit giving process, and maintaining a suitable credit administration, which includes credit monitoring and effective credit controls.

Different researchers have produced a number of theories related to financial distress in the academic literature, including as liquid asset theory, liquidity & profitability theory, entropy theory, gamblers ruin theory, cash management theory, and credit risk theory. In general, all theories except the credit risk theory match this study because insurance companies do not provide credit services to their customers.

2.3 DETERMINANTS OF FINANCIAL DISTRESS

2.3.1 Profitability & Financial Distress

Profitability ratios, according to Change (2006), indicate how effective a corporation is at making profits from given sales and/or capital assets. A company's ability to generate revenue in excess of expenses is measured by profitability ratios. Gross margin, net margin, operating margin, return on capital employed, return on equity, and return on assets are all examples of profitability measurements. According to research conducted on financially challenged businesses, activities such as modifying the business to boost profitability should be taken.

Financial distress has a major impact on a company's operations and profitability due to cost implications such as administrative and legal fees associated with bankruptcy (i.e., direct financial distress costs) or increasing debt costs (i.e., indirect financial distress costs) (Beaver, 1966).

When a company's profitability rises, so does its financial distress. On the other side, the more unprofitable a firm is, the more likely it is to fail. As a result, there is a link between a company's profitability and its financial distress. The researcher use the ratio of gross profit to total sales as a proxy for business profitability, as did Altman (1968).

2.3.2 Liquidity & Financial Distress

Liquidity refers to a company's total financial stability and the ease with which it can pay its bills. These ratios are seen as good leading indicators of cash flow problems since low or deteriorating liquidity is a common antecedent to financial distress and insolvency (Gitman, 1991).

Liquidity ratios are used to assess a company's capacity to meet its short-term debt obligations since they are a leading indicator of financial distress. Current ratio, quick (or acid test) ratio, and working capital as a proportion of sales are all examples of this financial ratio. The type of current asset employed in these ratios differs; a more conservative liquidity ratio (for example, the quick ratio) will remove current assets that are difficult to convert into cash (Brealey et al., 2000).

If a company has more liquidity, it has a better chance of meeting its financial obligations. As a result, there is a link between a company's liquidity and its financial distress. Most recent studies used the current ratio, which is defined as current assets divided by current liabilities, to assess liquidity.

2.3.3 Capital Adequacy Ratio & Financial Distress

The Capital Adequacy Ratio (CAR) examines the link between a financial institution's capital base and asset base to determine its strength and stability. Solvency refers to the ability to meet financial obligations as they become due over the long term. As financial institutions develop and become more sophisticated, and are subject to national regulation, the notions of capital adequacy and solvency have become increasingly important. To withstand the wide spectrum of crises that might afflict a financial intermediary, all financial institutions must be solvent (Shiu, 2004).

The fundamental characteristic considered vital in the Basel framework for safeguarding healthy financial institutions is capital adequacy. The capital of insurance acts as a lesson in absorbing unanticipated losses and shocks. Most recent research employed the equity capital divided by total assets ratio to assess capital adequacy (Shiu, 2004).

The capital adequacy ratio, which is calculated as the ratio of equity to total assets, is intended to ensure that insurance businesses can take an acceptable amount of loss before going bankrupt. That example, insurance companies with a higher capital adequacy ratio will be able to withstand more unexpected losses or will be more resilient to financial distress (Shiu, 2004).

2.3.4 Leverage & Financial Distress

Financial leverage refers to the increase in risk and return that occurs when fixed-cost financing, such as debt and preferred stock, is used. The greater a company's estimated risk and return, the more fixed-cost debt it used. The debt-to-asset ratio or the debt-to-equity ratios are two ways to assess financial leverage (Gitman, 1991).

If times are very difficult, a company that is heavily in debt may be unable to repay its loans. The company becomes insolvent, and shareholders lose their whole investment. Debt is believed to produce financial leverage since it raises return to shareholders in good times and decreases it in poor times (Gitman, 1991).

The more debt a company has, the more likely it is to be in financial distress. The default on debt commitments frequently precedes bankruptcy; consequently, the more the debt, the greater the risk of default. The more the firm's leverage, the less likely it is to meet its debt obligations and the greater the risk of financial disaster. As a result, there is a connection between leverage and financial distress (Gitman, 1991).

Firm financial leverage refers to debt ratios that establish a relationship between a company's total debt and total assets, allowing for a better understanding of the degree of leverage utilized by Ethiopia's private insurance businesses.

2.3.5 Firm Size & Financial Distress

The size of the company, according to Hotchkiss (1995), is another factor of financial distress. Because the magnitude of total assets should be responsive to the possibility of financial distress, the researcher also incorporates the natural logarithm of total assets.

It has been hypothesized that the size of a corporation has a negative relationship with financial distress. The main reasons behind this can be summed up as follows. To begin with, large insurance businesses are usually better equipped to deal with unfavorable market swings than small insurance companies. Second, compared to small insurance companies, large insurance companies can usually hire competent personnel with professional experience comparatively readily. Third, large insurance companies benefit from economies of scale when it comes to labor costs, which are the most important component in delivering insurance services (Shiu, 2004).

The likelihood of the firm's financial distress increases as the firm's asset size decreases. As a result, there is a negative association between firm size and financial distress as assessed by total assets held. Because the size of total assets should be sensitive to the probability of FD, the natural logarithm of total assets is the best measure of firm size (Hotchkiss 1995).

2.3.6 GDP & Financial Distress

The change in the real GDP growth rate is used to measure economic growth. Loan demand tends to be stronger during periods of strong economic growth, allowing banks to make more loans and, in turn, allowing insurance companies to provide more insurance coverage (Kevin et al 2001).

The Real GDP will be used to estimate economic performance. Gross domestic product value added at constant basic prices will be used to calculate this variable. The Ethiopian real Gross Domestic Product was used as a metric of economic growth in this study.

2.3.7 Inflation & Financial Distress

Inflation is a factor in insurance, and it has a negative impact on many parts of the business, including claims, expenses, and technical provisions. It has been demonstrated that low and stable inflation is critical for the viability of financial activities. It decreases financial distress and the risk of organizational failure by providing a degree of monetary predictability (Daykin et al, 1994).

Higher costs are connected to a high rate of inflation. Inflation is projected to have a favorable influence on financial hardship, as indicated in various pieces of literature, because the insurance business in this country is volatile for such things as changes and the common measure changes in consumer price index (Daykin et al, 1994).

The consumer price index, which measures inflation, reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that can be set or updated at regular intervals.

2.4 Altman's Z-Score EMS Model (1995)

Various researchers have employed all three editions of the Altman equation in their studies (original model 1968, revised model 1983, and revised model with four variables 1993). They altered Altman's Z-Score model to produce the emerging market scoring (EMS) system, which is based on Altman's original Z-Score model. As a result of its predicting capacity of failure or distress classification models, Altman et al (1995) will be utilized as a measure of FD of private insurance companies, as illustrated below.

$$Z'' = 3.25+6.56X1+ 3.26X2 + 6.72X3 + 1.05X4$$

Where:

Z"= financial distress measure of insurance companies

X1= Working capital / total assets,

X2= Retained Earning / total assets,

X3= EBIT / total assets (where EBIT is earnings before interest and taxes),

X4= BVE / total debt (where BVE is the book value of equity and total debt is book value of total liabilities)

Zones of discrimination

Z>2.6-Safe zone

1.10<Z<2.6-Grey zone

Z<1.10 - Distress zone

3. **METHODOLOGY**

The nature of the research problem in this study tends to be explanatory, as evidenced by the use of a panel research methodology to explain and evaluate the relationship between financial distress and its determinants.

All private insurance businesses operating in the country during the study period, i.e. 2010/2011-2019/2020 is the study's target population. Purposive sampling is a strategy used by the researcher to choose sample units from a population. As a result, the researchers selected 9 private insurance companies in Ethiopia that are currently in existence as a sample. The basis for picking 9 private insurance businesses from a total population is their year of establishment, which aids in the selection of private insurance companies with at least 10 years of experience in the industry throughout the study period.

The selection of sampled private insurances is also based on the availability of required data in their audited financial statements for the study period covered. Ethio Life and General Insurance and Oromia Insurance Companies were omitted from the sample due to a lack of required data in audited financial statements for the study's early periods, when they were new entrants.

The data used in this study was derived from secondary sources. The study's industry-specific variables were derived from the audited balance sheets and income and loss statements of nine Ethiopian insurance companies: National Insurance Company of Ethiopia (NICE), Awash Insurance, Africa Insurance, Nyala Insurance, NIB Insurance, United Insurance Company, Nile Insurance Company, Lion Insurance Companies, and Global Insurance Company.

The data was obtained from the National Bank of Ethiopia (NBE), which regulates the country's financial institutions sector, and the Ministry of Finance and Economic Cooperation of Ethiopia (MOFEC), which regulates the country's macroeconomic issues, in addition to the industry and macroeconomic variables.

The secondary data was analyzed using descriptive statistics, correlation analysis, and regression analysis with Altman's-Z-Score EMS model as a proxy for financial distress with its fixed effect estimate to evaluate a series of hypotheses that developed from the existing literature examined.

The study came up with the following model, which was tested to meet the research objectives, based on the theoretical and empirical talks in the previous chapter: description of variables, proxy, and expectation of sign.

$$FD_{it} = β0 + β1(Prof)_{it} + β2(Liq)_{it} + β3(CAR)_{it} + β4(Lev)_{it} + β5(Fsize)_{it} + β6(GDP)_{it} + β7(INF)_{it} + ε_{it}$$

Where: i, represent individual insurance companies; t, represent time; β0, represent the constant; β1-7, represent coefficient for the respective explanatory variables for X1-X7, FD, represent financial distress score of each private insurance companies and ε: represent the error term.

4. RESULT AND DISCUSSIONS

4.1. Descriptive statistics

The study presented here was conducted utilizing secondary data collected from nine private insurance firms over the years 2010/2011 to 2019/2020, resulting in 90 observations because the data was collected in its entirety.

	MEAN	MAX	MIN	STDV	OBS
Z SCORE	4.3884	7.6131	1.3427	1.3128	90
PROF	0.4501	0.8702	3.1940	0.4576	90
LIQ	0.9619	1.6608	0.2625	0.2450	90
CAR	0.3192	0.4575	0.1118	0.0726	90
LEV	0.6732	0.8224	0.4881	0.0762	90
FSIZE	8.5186	9.3374	7.5115	0.3736	90
GDP	0.0966	0.1128	0.0770	0.0109	90
INF	0.1517	0.3640	0.0280	0.1090	90

The mean, maximum, minimum, and standard deviation values are shown in the table above. The average financial distress of Ethiopian private insurance companies, as measured by Altman Zscore for 90 observations, is 4.3884 for the study period (2011-2020). Furthermore, the highest and minimum Z-score values were 7.6131 and 1.3427, respectively. The average Z-score during the ten-year period under research demonstrates that private insurances in Ethiopia are above the grey zone, which is Z > 2.6 "Safe Zone."On the other hand, a minimum value of 1.3427 indicates that there was a private insurance firm in the Grey Zone 1.1 Z 2.6 during the study period.

4.2 Correlation analysis

	Z-SCORE
Z-SCORE	1.0000
PROF	0.3510
LIQ	0.8837
CAR	0.2432
LEV	-0.4865
F SIZE	-0.0938
GDP	0.1746
INF	-0.1460

For the study period 2010/2011 to 2019/2020, the table above shows the correlation result of the independent variables to the dependent variable. According to the table above, Lev, Fsize, and Inf all have a negative connection to FD, with coefficients of correlation of -0.4865, -0.0938, and -0.1460, respectively. Prof, Liq, CAR, and GDP of Ethiopian private insurances all demonstrated a positive link to FD, with correlation coefficients of 0.3510, 0.8837, 0.2432, and 0.1746. As a result, the results must be interpreted backwards, as a positive correlation coefficient between the dependent variable FD proxy (z-score) and the independent variables indicates a negative linear relationship.

4.3 Regression Analysis between Dependent and Explanatory Variables

The R-square for the fixed effect regression model is 90.56 percent, as indicated in the table above. This means that changes in the independent variables (profitability, liquidity, capital adequacy ratio, leverage, firm size, GDP, and inflation) account for 90.56 percent of the variation in the dependent variable Z-score as a proxy for FD, with the remaining 9.44 percent explained by variables not included in the model. Furthermore, the Prob (F-Statistic) result of 0.000000 indicates the presence of substantial statistical significance, enhancing the model's dependability and validity.

```
Fixed-effects (within) regression          Number of obs     =        90
Group variable: IMGID                       Number of groups  =         9

R-sq:  within  = 0.9056                      Obs per group: min =       10
       between = 0.9758                                    avg =     10.0
       overall = 0.9400                                    max =       10

                                             F(7, 74)          =    101.44
corr(u_i, Xb)  = 0.1023                      Prob > F          =    0.0000
```

ZSCORE	Coef.	Std. Err.	t	P>|t|	[99% Conf. Interval]	
Prof	.6330476	.0857297	7.44	0.000	.4113357	.8647094
Liq	4.50696	.2050635	21.98	0.000	3.96479	5.04913
CAR	2.262173	.8131526	2.78	0.007	.1122682	4.412077
Lev	-2.736213	.960835	-2.85	0.006	-5.276577	-.1958486
Fsize	.0993919	.1816622	0.55	0.586	-.3809077	.5796908
GDP	-.1137296	4.514064	-0.03	0.980	-12.04852	11.82106
Inf	-.2277042	.393433	-0.58	0.565	-1.267907	.8124983
_cons	.0841543	2.072639	0.04	0.968	-5.395722	5.564031

sigma_u	.15263867	
sigma_e	.31527268	
rho	.18988941	(fraction of variance due to u_i)

```
F test that all u_i=0:     F(8, 74) =    1.66          Prob > F = 0.1221
```

4.4 Empirical model

FD= 0.084 + 0.638PROF + 4.506LIQ + 2.262CAR− 2.736LEV + 0.099FSIZE − 0.113GDP - 0.227INF

4.5 Firm Specific and Macroeconomic Factors

1. Profitability: The above table shows that profitability has a positive effect on Z-score as a proxy for financial distress, with a coefficient of 0.63 and a p-value of 0.000 in the panel data regression model. This means that if all other variables remain constant, increasing profitability by one unit will increase the z-score by 0.63 units, implying that the probability of financial distress in the institutions will reduce as well.

The result supports the first hypothesis, namely, that there is a negative and significant association between the dependent variable FD and the independent variable FD. Because the link is statistically significant at the 1% significance level, the null hypothesis (H1) is rejected. As a result, lowering the percentage of GP/TI ratio puts insurance firms in financial difficulty.

This finding is in line with earlier Ethiopian research (Goitom, 2019), which indicated a negative significant association between profitability and financial distress.

2. Liquidity: The second hypothesis (H2) is supported by the negative and statistically significant effect of liquidity on financial distress of selected private insurance companies in Ethiopia. As shown in the table above, liquidity had a large positive impact on the FD proxy, the z-score, which has a beta coefficient of 4.50.According to the beta coefficient, a one-unit increase in the CA/CL ratio, which is a measure of liquidity, results in a 4.50-unit gain in the z-score, which reduces the financial distress of the institutions.

The p-value (0.000) also allowed the study to reject the null hypotheses at a 1% level of significance. As a result, decreasing the proportion of CA/CL ratio exposes insurance businesses to greater liquidity risk and, as a result, to distress.

Although the findings of (Haregwayin, 2017), (Robel, 2018), and (Fred O., 2018) are similar to those of this study, the literature of (Tadesse, 2017) revealed that liquidity has a positive significant association with financial distress.

3. Capital adequacy ratio: The third hypothesis (H3) is supported by the negative and statistically significant effect of capital adequacy ratio on financial distress of selected private insurance companies in Ethiopia. The capital adequacy ratio had a strong positive effect on the z-score proxy of FD, as seen in the table above, with a beta coefficient of 2.26. According to the beta coefficient, a one-unit increase in the EQ/TA ratio, which is a measure of liquidity, results in a 2.26-unit increase in the z-score, and when the z-score rises, the financial distress of the institutions decreases. The p-value (0.007) also allowed the study to reject the null hypotheses at a 1% level of significance. This means that lowering the EQ/TA ratio percentage puts the selected private insurance businesses in financial risk.

The findings of research literature done by (Tadesse, 2017), (Haregewayin, 2017), (Robel, 2018), and (Fred O., 2018) all revealed that capital adequacy ratio has a negative significant link with financial distress, while the conclusion of (Yulita et.al, 2017) contradicts this result.

4. Leverage: The fourth hypothesis (H4) is likewise supported by the positive and statistically significant effect of leverage on financial distress of selected private insurance companies in Ethiopia. The negative effect of leverage ratio on z-score as a proxy for financial distress is shown in the above table with a beta coefficient of -2.73. This means that increasing the TL/TA ratio percentage puts insurance firms in danger. At a 1% level of significance, the p-value (i.e. 0.006) allows the study to reject the null hypothesis. This finding is consistent with recent studies by (Fred O., 2017) and (Goitom, 2019) who found a positive significant association between leverage and financial distress.

5. Firm Size: The above table shows that firm size has an insignificant positive effect on the z- score proxy of FD, with a coefficient of 0.09 and a p-value of 0.586 in the panel data regression model which means that a one-unit increase in the log to TA ratio, as a metric of company size, results in a 0.09-unit increase in the z-score, and thus as the z-score rises, the financial distress of the institutions reduces.

The outcome has an insignificant p-value, which contradicts the fifth hypothesis (H5) of a negative and significant connection with the dependent variable FD. As a result, the researcher was unable to reject the null hypotheses with the maximum tolerance level of 10% significance, implying that there is a probability that the firm size influence on FD is zero.

6. GDP: The above table shows that GDP has an insignificant negative influence on z-score as a proxy of FD, with a coefficient of -0.11 and a p-value of 0.980, indicating that GDP has a positive effect on FD of selected private insurance businesses in Ethiopia. Because the p-value is small and the effect is positive, the result does not match the six hypotheses (H6), i.e. a negative and significant association with the dependent variable FD. As a result, the researchers were unable to reject the null hypotheses at the 10 percent significance level, implying that there is a possibility that the GDP influence on FD is zero.

7. Inflation: According to the results of the panel data regression model shown in the table above, inflation has a non-significant negative effect on the z-score proxy of FD (coefficient -0.22) and a non-significant positive effect on FD (p-value 0.565). The finding does not match the seventh hypothesis (H7), which states that the dependent variable FD has a positive and significant connection. As a result, the researchers were unable to reject the null hypotheses with the 10 percent significance threshold, implying that there is a probability that the inflation effect on FD is zero.

5. CONCLUSIONS

The study's major goal was to look at the factors that contributed to the financial distress of selected private insurance businesses in Ethiopia. For a ten-year period (2010/2011 to 2019/2020), panel data were used for a sample of nine private insurances. Profitability, liquidity, capital adequacy ratio, leverage, and firm size are firm-level characteristics, and GDP growth rate and inflation are chosen as explanatory variables from macroeconomic factors, with Z-score as the dependent variable. The study came to the following results based on descriptive statistics and regression analysis. The descriptive statistics results show that private insurances during the study period on average show 4.3884 Z-score which means selected private insurance companies in Ethiopia are under "safe zone" for the study period.

Profitability had a positive and statistically significant impact on Z-score as a proxy for financial distress of selected Ethiopian private insurance companies, implying a negative and statistically significant impact on FD. If the firm's profitability (as measured by GP/TI) rose, the firm's profitability (as assessed by GP/TI) increased. The likelihood of financial distress will be reduced.

The positive liquidity coefficient in regard to the z-score, as determined by the CA/CL ratio, indicates a strongly negative association with the FD. If a company has more liquid assets, it will be able to cover its fixed costs more easily, and the likelihood of the company going bankrupt will be reduced.

The capital adequacy ratio had a negative and statistically significant impact on the financial distress of a group of Ethiopian private insurance companies. Because the selected private insurance businesses have a low equity to total asset ratio, most of their total assets are financed by debt funds, and they are not flexible in dealing with problems emerging from unexpected losses related to insurance policy risks.

The TL/TA ratio measures the negative coefficient leverage relative to z-score, which indicates a significantly positive association with the dependent variable FD. When a company's leverage raises so, does its financial strain and the likelihood of failure rises as well.

Firm size, as assessed by the log of TA, has an insignificantly negative connection with the dependent variable FD, indicating that the explanatory variable firm size had no meaningful impact on the financial distress of Ethiopian private insurance companies. This regression conclusion contradicts the "too big to fail" thesis, which argues that as a company's size grows, so does the risk of it failing.

The regression result for GDP and Inflation reveals an insignificantly positive connection with the dependent variable, indicating that GDP growth and inflation rates have no meaningful impact on the financial hardship of selected private insurance businesses in Ethiopia.

Profitability, liquidity, capital adequacy ratio, and leverage are the primary predictors of financial distress of selected private insurance businesses in Ethiopia, according to the study.

6. Recommendation

The researchers make the following particular recommendations based on the findings of both descriptive statistics and regression analysis:-

➢ The chosen private insurance businesses should deal with financial distress resulting from a decrease in profitability and work toward maximizing profits.

➢ Private insurance companies with sufficient capital are more adaptable in dealing with challenges that arise from unexpected losses. In this regard, the managements of chosen private insurance businesses should place a high priority on effectively managing and maintaining an appropriate capital-to-asset ratio.

➢ The management and shareholders of selected private insurance businesses should keep an eye on their company's liquidity, as some private insurance companies' liquidity positions were found to be significantly lower than the industry average.

➢ The leverage ratio's mean value of 0.6732 implies that selected private insurance businesses' total liabilities cover 67 percent of their total assets. As a result, managements of chosen private insurance businesses should strive to reduce their total liabilities, as failure to pay a responsibility could put a company in financial danger.

➢ The study also advises the NBE and other regulatory bodies to keep a close watch on the financial health of private insurance companies and financial institutions as a whole, because financial institution failure can lead to a country's economy collapse.

7. Further research

This study attempted to fill a gap in the current literature as indicated in the issue statement, research purpose, and hypotheses; however it contains limitations that must be addressed by other researchers. Other determining variables, such as company age and management efficiency, have been suggested in empirical literature but are not included in the study's models. Future research should include variables that were not included in this study and use large samples.

REFERENCES

Adeyemi, B. (2011). Bank Failure in Nigeria: A Consequence of Capital Inadequacy, Lack of Transparency and Non-Performing Loans. Banks and Bank System, 6(1), 99- 109

Altman, E.I., and E. Hotchkiss, (2006). Corporate financial distress and bankruptcy, 3rd edition, John Wiley & Sons, Inc.

Aziz and Dar, (2006). Predicting Corporate Financial Distress: Whither Do We Stand? Corporate governance, Vol. 6, No.1, pp. 18-33

Beaver, W. (1966): Financial Ratios as Predictors of Failure. In: Journal of Accounting Research, 5, 71-111.

Brealey, R & Meyers, S. (2000). Principles of Corporate Finance, 6th Edition,   McGraw-Hill Newyork

Change, S. (2006). The Causes and Salvation Ways of Financial Distress Companies': An   Empirical Research on the Listed Companies in China.

Daykin, C., Pentikäinen, T. & Pesonen, M. (1994), Practical risk theory for actuaries, U.K

Douglass, K.N. (2011). Internal control and its contributions to organizational efficiency and effectiveness: A case study of Eco-bank Ghana limited, Master's thesis, Kwame Nkrumah University, Ghana.

Ephrem G., (2015). Determinants of Financial Distress Conditions of Commercial Banks in Ethiopia: A Case study of Selected Private Commercial Banks. Journal of Poverty, Investment and Development, Vol. 13, pp. 59-73.

Espen, S., (1999). Assessment of Credit Risk in Norwegian Business Sector. Master's Thesis, The University of Bergen, Bergen, Norway.

Frederic, S. Stanley, G. and Eakins, (2009), financial Markets and Institutions, 7th edition

Geiger, M.T and Moller, L.C. (2015). Fourth Ethiopia economic update: overcoming constraints in the manufacturing sector. Washington, DC: World Bank Group.

Gitman, L.J. (1991). Principles of Managerial Finance. 6th edition, Harper Collins Publishers, San Diego.

Goitom T. (2019).Financial Distress and its determinant in banks and insurance industry. Master's thesis. Addis Ababa University, Ethiopia.

Goswami, S., Chandra, B., and Chouhan, V. (2014). Predicting financial stability of select BSE companies revisiting Altman Z score. International Letters of Social and Humanistic Sciences, 15(3), 92-105.

Haregewayin (2017). Determinants of Financial Distress: The case of Microfinance Institutions in Ethiopia. Master's thesis. Addis Ababa University, Ethiopia.

Haiss, P., & Sumegi, K. (2008).The Relationship between Insurance and Economic Growth: a theoretical and empirical analysis. Eroupa institute: Economics and Business Administration in Europe Vienna.UniversityAlthanstrass39-45

Hashi, I. (1997). The Economics of Bankruptcy, Reorganization, and Liquidation: Lessons for East European Transition Economies. Russian and East European Finance and Trade Vol. 33, No. 4.

Hifza, M. (2011). Determinants of insurance companies" profitability: an analysis of insurance sector of Pakistan, Academic Research International, Volume 1Journal of Risk and Insurance, 75, (3).Journal.

Hotchkiss, E. (1995). 'Post Bankruptcy Performance and Management Turnover [J],' Journal of Finance, 50: 3-21.

Jahur, S. M., and Quardir, N. M. (2012). Financial Distress in Small and Medium Enterprises of Bangladesh: Determinants and Remedial Measure. Economic management, 15(1), 46-61.

Kevin Keasey, Julio Pindado, Luis Rodrigues (2001). The Costs of SME's Financial Distress across Europe.

Kihara, M. (2012). The Importance of Insurance its challenges and solutions.

Koller, M. (2011). Life insurance risk management essentials. Springer Science & Business Media.

Laitinen, E.K. (1991). Financial Ratios and Different Failure Processes. Journal of Business Finance and Accounting. 18(5).

Monti, E.N., & Moriano, G. R. (2010). A Statistical Analysis to Predict Financial Distress. Journal Service & Management.

Natalia, O., (2007). Corporate Financial Distress: An Empirical Analysis of Distress Risk (Doctorial Dissertation No. 3430, University of St. Gallen, St. Gallen, Switzerland).

National Bank of Ethiopia (NBE). (2016). Annual report: domestic economic analysis and publication directorate, national bank of Ethiopia. Website: http//www.nbe.gov.et. Addis Ababa Ethiopia.

Nyunja, F., (2011). Credit Risk. KASNEB News line, January-march (1), pp 39-45

Purnanandam, A. (2005). Financial Distress and Corporate Risk Management: Theory & Evidence. Working Paper, Ross School of Business, University of Michigan

Robel Y. (2018). Determinants of Financial Distress: Empirical Evidence from private commercial Banks in Ethiopia. Master Thesis, Addis Ababa University, Addis Ababa.

Scott, J. (1981). The probability of bankruptcy: a comparison of empirical predictions and theoretical models. Journal of Banking and Finance. 5.

Shiu, Y. (2004). Determinants of United Kingdom general insurance company   performance: British Actuarial Journal, 10 (5).

Suheyli R. (2015). Determinants of insurance companies' profitability in Ethiopia. Master's thesis. Addis Ababa University, Ethiopia.

Tadesse, Y. (2017). The Determinants of Financial Distress: Empirical Evidence from Banks in Ethiopia. Master Thesis, Addis Ababa University, Addis Ababa.

Wilson, W.J., (1997). The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy. Chicago: The University of Chicago Press.