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TRENDS IN CAPITAL STRUCTURE: A COMPARATIVE STUDY OF BANKING AND INSURANCE SECTORS IN ETHIOPIA

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Abstract

Understanding the trends in corporate capital structure is critically important to grasp the financing behavior and existing problems of companies in different industries and optimize industry capital structure. This study empirically examined the trends in the capital structure of banking and insurance companies and the extent of variation in capital structures between banking and insurance sectors in Ethiopia. The study used secondary data derived from published annual financial reports of 16 banks and 16 insurers for ten years from 2013-2022. The study employed the book value of the debt-equity ratio as the primary variable and trend ratio analysis and independent samples t-test techniques for analyzing capital structure trends and variations. The research confirmed that Ethiopian banks rely heavily on debt finance, possibly due to their peculiar nature, increased public confidence in banking, and the absence of a regulated secondary stock market in the country. Nevertheless, insurance companies exhibit a lower average debt-equity ratio than the standard norm of 2:1 due to insurers' strong internal equity-generating capability, solid regulatory performance in the insurance sector, and availability of equity funding from sister banks. The analysis also discovered a statistically significant difference in the capital structures between Ethiopia's banking and insurance sectors.

Keywords: Trends, Capital Structure, Banking Sector, Insurance Sector, Debt-Equity

1. INTRODUCTION

Since Modigliani & Miller's (1958) most influential article ever written in the field of finance, finance economists, academics, and researchers have extensively studied and debated the subject of capital structure decisions from theoretical and empirical perspectives; still, they haven't yet reached a consensus (Park & Jang, 2013; Ting, 2016). Capital structure decision involves choosing a mix of long- and short-term debts and equity funds needed to finance the business assets and operations. One of the crucial financial decisions every company makes is formulating an appropriate mix of debt and equity financing in the capital structure that minimizes the overall finance costs and maximizes the firm's intrinsic value. As a general rule, capital structure decision is a vital task of corporate managers directly linked to the success or failure of a firm (Ali et al., 2020; Ilyas & Raju, 2017; Opoku-Asante et al., 2022). This is because capital structure decision has a long-term impact on the overall cost of capital, performance, liquidity position, and future growth potential of the firm.

Many companies become bankrupt because of an excessive debt burden or inappropriate capital mix decisions. Corporate managers must therefore weigh the benefits and drawbacks of the various financing options before choosing their mix, bearing in mind the optimal capital

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structure or the combination that minimizes the cost of capital and risk, thereby maximizing corporate value. In short, corporate managers must design the capital structure to serve the interests of equity shareholders (Angahar & Ivarave, 2016; Chadha & Sharma, 2016; Harun et al., 2020; Kaur, 2016).

Scholars and practitioners have found it difficult to understand how firms in the Western (perfect capital markets) and developing (imperfect capital markets) economies choose their capital structures. In practice, corporate managers are observed to employ a variety of debt and equity combinations (Adhikary & Bhatt, 2015). Consequently, a thorough analysis of the nature of the capital structure of companies in different industries is decisive as it helps to understand the financing behavior and existing problems of companies and make optimal capital structure decisions based on the firm and industry characteristics. It also helps formulate a set of comprehensive empirical capital structure decision guidances that align with the nation's economic conditions (Chadha & Sharma, 2016; Jie, 2019).

In Ethiopia, one of the least developing countries on the African continent, the banking and insurance sectors are integral components of the financial industry and critical members of the country's economy. These two sectors constitute approximately 93 percent of the total capital of the financial sector and contribute, on average, 4.2 percent to the national economy. In 2022, the country is now home to 30 banks and 18 insurance companies, according to the official report of the National Bank of Ethiopia (2021-22). The Ethiopian economy has gradually shifted from centrally regulated to liberalized during the past three decades. It was thus imperative to amend various laws and regulations. Financial firms are among the entities that experienced several regulatory framework changes. These regulatory changes may have impacted their capital structure (financing) decisions. As such, it is crucial to understand how Ethiopia's financial firms finance their operations, assets, and growth prospects. In other words, it is critical to know whether the financial institutions in Ethiopia rely more on debt or equity during the era of a liberal economy.

Based on the above backdrop, this study looks at the trends of capital structure in the Ethiopian financial sector firms during the post-liberalization era from 2012-13 to 2021-22. The rest of the paper comprises the following sections. The second section reviews relevant literature on capital structure trends. Sections 3 and 4 propose the study's objectives and hypothesis. The fifth section describes the methodology applied to analyze the nature of capital structure at the firm- and industry levels. In the sixth section, we analyze the capital structure trends of Ethiopian financial firms by capital structure composition, followed by the variations in capital structure between the banking and insurance sectors. The section also discusses the possible causes of variation in the capital structures between banks and insurance companies. In the last section, we summarize the study's findings and conclude with a direction for further research.

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2. RELATED LITERATURE

We have surveyed empirical research on corporate capital structure trends to justify the rationale of the present study. This section briefly reviews some of the significant studies undertaken in different industries of developing countries. The review focused on developing countries because most companies in developing economies possess characteristics that distinguish them from developed ones (Buvanendra et al., 2017).

Panigrahi (2010) empirically examined the financing pattern of 300 private sector companies selected from 20 different sectors in India. The study used trend analysis of the debt-equity and debt-asset ratios to analyze each company's historical funds flow statements for nine years from 2000 to 2008. According to the findings, Indian companies employed substantial debt in their capital structure and preferred long-term debt over short-term. The research also showed that foreign-controlled companies in India utilized less debt than their Indian counterparts.

Ansong & Ekow-Asmah (2013) studied the capital structure nature of insurance companies in Ghana by employing panel data from the annual financial reports of 15 insurance companies from 2002 to 2011. The study observed that the capital structure of the insurance sector in Ghana, as measured by short-term debt ratio, total debt ratio, and equity ratio, has a higher proportion of debt capital than equity capital, with short-term debt accounting for a more significant proportion of this component. The study also observed that while there is no considerable variation in the proportion of debt capital practice among the insurance companies in Ghana, there is a substantial difference in the proportion of equity capital practice.

Singh & Luthra (2013) empirically analyzed the corporate capital structure trends of India's 13 refinery and 11 metal industries using published annual reports from 2003 to 2012. The study used a trend analysis of the debt-equity ratio for ten years. The empirical findings show that Indian refinery and metal companies used maximum debt financing during the initial period of operations to reduce their cost of capital but at the expense of increased financial risk. They later switched to equity financing as a result. The study also shows that the metal industry uses more debt financing in its capital structure than the refinery industry does.

Kumar (2014) conducted an empirical study relating to the trend in financing patterns and composition of capital structure of Indian SMEs using various capital structure ratios for four years from 2010-2013. The study used annual financial reports of 400 selected SMEs. The study observed that the long-term funds of Indian SMEs accounted for approximately two-thirds of total funds when compared to short-term funds employed. Further, the SMEs utilized more equity financing than borrowed funds, resulting in low associated financial risk.

Tawiah & Tawiah (2014) assessed the trends in the capital structure of companies in India and Ghana to identify the possible reasons for differences in their capital structures considering inter-country differences such as industrialization, capital market efficiency, etc., and interest rate levels. The study used the annual financial reports of 40 listed companies from both countries over five years, from 2008 to 2012. The data was analyzed using the debt-equity ratio trend analysis. The results of the study revealed that Ghanaian companies are less reliant on debt finance than their Indian counterparts due to the high-interest rate in Ghana. In addition,

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India's vibrant and efficient capital market supported increasing shareholder confidence and decreasing company borrowings in India.

Chadha & Sharma (2016) analyzed the capital structure trends of 422 manufacturing firms for ten years from 2004 to 2013. The study used the sample companies' annual financial reports and ratio analysis of debt to equity, debt to capital, and debt to assets. The study found that there had been a continuous increase in the debt level of Indian manufacturing firms during the study period at an average compounded annual growth rate of 17 percent, implying a significant increase in debt usage in India's manufacturing sector. The study also found a substantial debt in the capital structure of Indian manufacturing firms, affirming high reliance on debt for financing their assets and activities and a significant degree of financial risk.

Gangadhar et al. (2016) explored the practices in the financing pattern of the refinery industry in India using the debt-equity ratio trend analysis and secondary financial information data obtained from 3 Indian companies from 2005 to 2014. The study's overall findings showed that the refinery companies used debt and equity financing, which implies that these industries have access to the market for both types of financing. The study's outcome also showed that even though the trend in debt and equity financing is increasing in the refinery industry, the companies are not utilizing debt financing to the maximum possible extent due to the fear of financial risk.

Olawale Odewole (2016) empirically assessed the capital structure nature of 14 commercial firms in the Nigerian banking sector using their 10-year annual reports from 2005 to 2012. Descriptive analysis methods were employed to perform the empirical study. The study's results confirmed that commercial banks in Nigeria exhibited 75 percent short-term financing, which implies that Nigerian banks rely primarily on short-term external funding. The high reliance on short-term debts may cause considerable financial instability in the banking sector as banks may face a significant shortage of financing if depositors (creditors) unexpectedly refuse to roll over the debt. Ilyas & Raju (2017) studied the capital structure pattern of non-financial companies in India to provide empirical evidence on the capital structure patterns of Indian companies and the extent of variations in the capital structure among Indian industries. The study used ratio analysis techniques and financial data from 20 sample companies selected from four sectors. This study covered ten years, spanning the years 2007 to 2016. The results show that various sectors in India followed different capital structure patterns. However, the capital structure between the Pharmaceutical and Automobile industries has no significant difference, implying that companies in these industries nearly maintained a similar capital structure pattern.

Pandey et al. (2017) empirically analyzed trends in the capital structure pattern of 500 Indian companies from 18 non-financial services sectors for 16 years, from 2000-2015, to comprehend how various sectors have structured their capital structures. The study applied two leverage ratios for the analysis: debt-to-equity ratio and debt-to-total capital ratio. The survey indicated a debt-equity ratio 1.9:1, implying that Indian companies relied more on equity financing than debt. Regarding debt financing, loans from banking and other financial institutions are the primary sources, followed by foreign currency debt. Jie (2019) looked at the capital structure

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trends of China's 3,585 non-financial companies and the variations in capital structure among 28 non-financial industries in China from 2007 to 2017 using the debt-equity ratio as the primary capital structure variable. The study used Excel and Stata Software to process the data. The study unveiled that Chinese companies' capital structures fluctuated between 2007 and 2013 and remained relatively stable from 2013 to 2017. The macroeconomic environment affects the trend in the capital structure patterns of companies in China. The study further confirmed that capital structure varies significantly between Chinese industries and has universality and stability in time. To sum up, many of the above studies have approached the trends in corporate capital structure using financial ratio trend analysis techniques for ten years. Indeed, the empirical research examining corporate capital structure trends in developing countries is somewhat scant. Besides, the existing studies are mainly from samples in Asian economies and non-financial sectors. Surprisingly, the issue has received no research attention in the Ethiopian context. To the best of the author's knowledge, upon review of the empirical literature, no Ethiopia-specific published research works explored corporate capital structure changing trends comparatively. The nonexistence of such an empirical study in Ethiopia motivates this study. The results of this empirical study are expected to contribute to a better understanding of today's corporate capital structure trends in Ethiopia, thereby framing an optimal capital structure in line with the industry characteristics and the national economy.

3. OBJECTIVES

This research aims to empirically determine inter-company and inter-industry differences in the capital structure nature of Ethiopian financial firms and identify the possible causes of such variations, if any. Therefore, this research paper intends to address the following specific objectives.

- To examine the trends in capital structure changes of banking and insurance companies in Ethiopia.
- To comparatively examine the capital structure trends of Ethiopia's banking and insurance industries.
- To identify the possible causes of the variation in the capital structure of Ethiopia's banking and insurance companies.

4. RESEARCH HYPOTHESIS

Considering the objectives mentioned above, the study has framed the following hypotheses to test the extent of variations in the capital structure nature between Ethiopia's banking and insurance sectors.

H_0: Ethiopia's banking and insurance sectors have no significant difference in their capital structure trends.

H_1: There is a significant difference in the capital structure trends between Ethiopia's banking and insurance sectors.

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5. METHODOLOGY

To analyze the trends and variations in the capital structure of Ethiopia's financial sector at the firm- and industry levels, the study derived panel financial data from the audited annual financial reports of 16 banking institutions and 16 insurance companies as a sample. The study covered ten years from 2013 to 2022, resulting in 320 firm-year observations. The study excluded companies with missing values in measurement variables throughout the study's time frame. To make the analysis more realistic, we consider the macroeconomic environment's influence on the capital structure of financial sector companies. For this purpose, the Ethiopian Central Statistical Services provided Ethiopia's real Gross Domestic Product (GDP) figures between 2013-2022.

The study employed the financial ratio trend analysis approach and central tendency mathematical tools to analyze the nature of the capital structure of Ethiopian financial firms. The research also applied independent samples t-test statistical tool to explore whether the capital structures significantly vary between banking and insurance industries in the Ethiopian financial sector. The variation is statistically significant if the t-test statistic (in absolute value) is less than or equal to 0.05 (Pandey & Kumari, 2021). The study also used tables and charts to present the study's results.

Referencing Jie (2019), Baby et al. (2016), Ilyas and Raju (2016), and Chadha and Sharma (2016), the capital structure proxy variable used in this study is the book value of debt-equity (D/R) ratio, which is a capital structure proxy widely applied in studying the trend analysis of capital structure. The D/E ratio is the key metric to gauge a company's overall financial soundness and health. It is computed by dividing total debt by total stockholders' equity. Total debt is the sum of short-term and long-term debts, and total equity is the sum of equity share capital, reserves, and surplus. A D/E ratio indicates how much debt a firm has used in financing its assets and operations relative to the value represented in shareholders' equity. A higher D/E ratio implies aggressive (risky) financing strategies, heavy reliance on debt, and a higher financial risk. It also means that a company is generally less successful in attracting equity investors. Yet again, a higher level of D/E ratio represents a more volatile return (unpredictable) to shareholders. A D/E ratio decreasing over time is a positive sign indicating an increase in cash accrual and debt repayment. Investors usually prefer companies with low D/E ratios, meaning their interests are better protected in liquidation (Baby et al., 2016; Ilyas & Raju, 2016; Singh & Luthra, 2013).

6. ANALYSIS AND DISCUSSION

This section presents and discusses the study's results in four parts. The first and second parts discuss the capital structure trends of financial firms in the banking and insurance industries. Part three discusses the variations in the capital structures between the selected two sectors. The fourth part compares the macroeconomic climate and the changing trends in the capital structures of financial sector companies in Ethiopia.

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6.1 Trends in the capital structure of banking sector companies

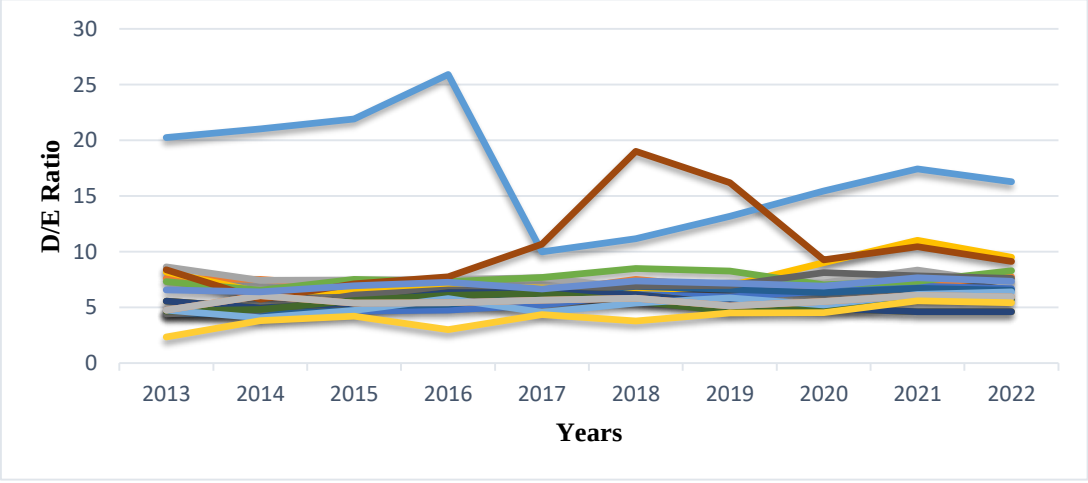
Table 1 and Figure 1 below present the trends in the capital structure (as measured by the D/E ratio) of banking companies in Ethiopia during the study period.

Table 1: Capital structure trends of Ethiopia's Banking sector from 2013 to 2022

Banks	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Mean
CBE	20.25	21.01	21.90	25.90	10.00	11.16	13.19	15.44	17.42	16.29	**17.26**
AIB	7.61	7.51	6.92	6.92	6.38	7.51	6.74	6.46	7.13	7.75	**7.09**
DB	8.65	7.45	7.47	7.51	7.67	6.74	7.21	7.21	8.35	7.15	**7.54**
BOA	8.17	6.38	6.55	6.92	6.75	6.53	6.94	9.02	11.03	9.51	**7.78**
WB	4.68	4.38	4.68	4.77	5.24	6.16	5.93	6.47	6.91	6.68	**5.59**
HB	7.31	6.54	7.52	7.33	7.71	8.49	8.26	7.03	7.35	8.30	**7.58**
NIB	4.48	4.47	5.09	5.29	6.12	6.90	6.64	6.34	6.73	6.56	**5.86**
CBO	8.39	5.74	7.12	7.75	10.68	19.02	16.21	9.27	10.46	9.13	**10.38**
LIB	4.43	4.76	6.13	6.59	6.58	6.92	6.97	8.13	7.85	7.60	**6.60**
OIB	6.14	7.22	8.60	7.56	8.78	8.18	7.56	6.37	6.62	6.61	**7.36**
ZB	5.58	4.97	5.37	6.36	6.36	6.15	5.30	4.92	4.61	4.61	**5.42**
BuIB	4.69	4.83	5.64	6.10	6.26	5.57	4.64	5.14	5.81	5.73	**5.44**
BrB	4.76	4.08	4.74	5.79	4.56	5.39	5.86	5.23	6.18	6.41	**5.30**
AB	4.77	6.07	5.40	5.44	5.65	5.83	5.15	5.54	6.10	5.95	**5.59**
AdIB	3.07	3.00	3.85	2.87	3.51	3.67	3.96	3.78	4.47	3.96	**3.61**
DGB	2.36	3.82	4.22	3.01	4.36	3.78	4.52	4.54	5.60	5.44	**4.17**
Mean	**6.58**	**6.39**	**6.95**	**7.26**	**6.66**	**7.38**	**7.19**	**6.93**	**7.66**	**7.36**	**7.04**

Source: Author's calculations based on bank scope data

Fig 1: Capital Structure Trends of Ethiopia's Banking Companies



Source: Annual reports of Ethiopian banks

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The trends in Table 1 and Figure 1 show wide firm-wise fluctuations in the capital structure of Ethiopia's banking sector, ranging from 3.61 to 17.26 between 2013-2022. CBE, the oldest state-owned commercial bank, used the highest debt for financing its operations and assets, ranging from 10.00 to 25.90 (mean=17.26), followed by CBO, ranging from 5.74 to 19.02 (mean=10.38) and BOA ranging from 6.38 to 11.03 (mean=7.58). AdIB carried the lowest debt funds to finance its operations and assets, ranging from 2.87 to 4.47 (mean=3.61), followed by DGB, ranging from 2.36 to 5.60 (mean=4.17). These two banks are the youngest of sixteen banks covered in the study.

CBE's extraordinarily high D/E ratios compared to its counterparts were caused by the deposits of its greatest number of customers and significant finance lease obligations to the government. The findings in this study provide credence to the general perception that CBE, the only state-owned commercial bank in the country, receives preferential treatment from the government. For instance, according to the current Ethiopian law, all government agencies and public enterprises must use CBE to maintain their bank accounts. Having a bank account in the CBE is also mandatory for all government employees. Another possible argument for the very high D/E ratio of CBE is its quasi-monopoly nature in the banking sector of Ethiopia. CBE is the dominant market leader in the Ethiopian banking sector regarding bank branch network coverage, capitalization, asset size, deposit mobilization, and loan disbursements (Abate & Kaur, 2023). The theoretical studies and common understanding reveal that the D/E value of large-sized companies is relatively very high since they are more known to the public (Baby et al., 2016).

The results in Table 1 and Figure 1 further reveal that the average D/E ratio in the Ethiopian banking sector had a slightly volatile trend with a slight rise during 2013-2022, ranging from 6.39 to 7.66 and a mean ratio of 7.04. Indeed, the average D/E ratio (7.04) of the sector is much higher than the generally accepted standard norm D/E ratio of 2:1. This, in turn, implies that Ethiopia's banking sector companies finance a substantial portion of their total assets and operations by debt funds that may expose them to a significant degree of financial risk. The extraordinarily high average D/E ratio (mean=7.04) in Ethiopian banks could be due to the peculiar nature of the banking industry in general, the nonexistence of a formally organized stock market in the country, and the high level of public confidence in the country's banking sector.

The banking sector companies have a unique nature in that they have an ordinary source of debt financing in the form of bank deposits, which non-financial firms and non-banking institutions do not have (Sibindi & Makina, 2018). These customer deposits frequently lead banks to operate with a very high level of debt. Therefore, it is logical that banks typically have the highest D/E rates (Baby et al., 2016). On top of that, Ethiopia's financial sector is constrained by the absence of a regulated secondary stock market to access equity funds. According to the report of the World Bank (2019), the issue of corporate shares by Ethiopia's companies is not market-based. It is thus challenging for banks in Ethiopia to attract equity investors to raise equity capital. Consequently, the debt source of financing plays a significant role in the Ethiopian banking sector.

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On the other hand, the higher D/E value for Ethiopian banks may imply that the public has developed strong public confidence in the country's banking services as the banking regulator has implemented prudential depositors' protection measures and standards in the country's banking system. The theoretical studies, empirical research, and common understanding tell us that companies trusted by the public have easier access to more debt funds (Baby et al., 2016). Despite this, Ethiopian banks' financial risk is comparatively very high due to the debt-dominated nature of their capital structure. A high-leveraged bank is a more risky bank (Duasa et al., 2014). The 2007-2008 financial crisis resulting from excessive debt load is a recent witness (Pandey et al., 2017). The findings of this study are consistent with that of Ansong & Ekow-Asmah (2013), Singh & Luthra (2013), Chadha & Sharma (2016), and Olawale Odewole (2016), who found that firms in different sectors use significant debt levels.

6.2 Trends in the capital structure of insurance companies

The results of capital structure trends as measured by the D/E ratios of the insurance companies in the Ethiopian financial sector during the study period are given in Table 2 and Figure 2 below.

Table 2: Capital Structure Trends of Ethiopia's Insurance Sector from 2013 to 2022

Insurers	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Mean
EIC	2.02	1.90	1.92	1.58	1.50	2.27	3.60	4.59	6.53	8.20	**3.41**
AIC	1.69	1.38	1.40	1.36	1.25	1.21	1.15	1.17	1.20	1.19	**1.30**
GIC	1.84	1.33	0.95	1.01	1.09	1.06	1.24	1.16	1.12	1.06	**1.19**
NiIC	1.53	1.48	1.34	1.55	1.46	1.35	1.35	1.28	1.55	1.63	**1.45**
NICE	2.65	2.79	2.10	2.57	2.32	2.33	2.15	2.00	1.71	1.61	**2.22**
AfIC	2.22	1.94	1.49	1.28	1.42	2.14	2.50	2.92	2.93	2.70	**2.15**
NibIC	2.43	2.06	1.91	1.66	1.76	3.07	2.27	1.83	1.80	1.57	**2.04**
NyIC	1.46	1.39	1.75	1.76	1.43	1.68	1.44	1.33	1.24	1.20	**1.47**
UnIC	1.93	1.81	1.50	0.89	1.11	1.20	1.14	1.06	1.14	1.34	**1.31**
OIC	2.92	2.40	2.35	2.61	2.09	1.92	2.04	1.65	1.72	1.63	**2.13**
LIC	2.36	1.80	2.10	2.72	1.40	3.16	2.74	2.46	2.43	2.96	**2.41**
AbIC	7.34	2.38	1.49	1.49	1.35	1.55	1.95	1.57	1.71	1.92	**2.28**
BrIC	2.56	2.12	1.20	1.34	2.11	1.89	2.16	1.77	1.64	1.77	**1.86**
TsIC	4.94	2.45	1.89	1.98	1.89	2.78	2.72	2.12	2.25	2.49	**2.55**
ELIG	0.65	0.86	1.09	0.88	1.22	1.73	2.08	2.44	2.83	2.21	**1.60**
LuIC	2.44	1.69	0.70	0.76	0.87	1.38	1.67	1.54	2.91	2.32	**1.63**
Mean	**2.56**	**1.86**	**1.57**	**1.59**	**1.52**	**1.92**	**2.01**	**1.93**	**2.17**	**2.24**	**1.94**

Source: Author's calculations based on insurance scope data

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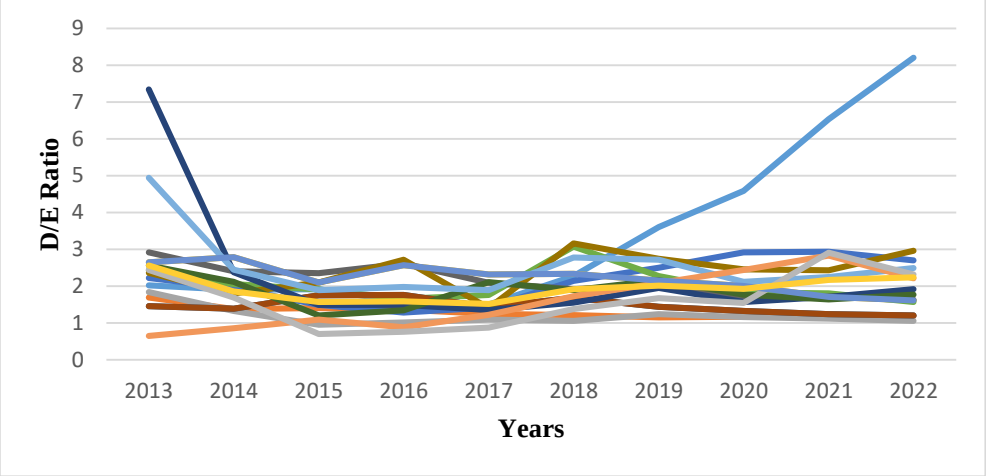
Fig 2: Capital Structure Trends of Ethiopia's Insurance Companies



Source: Annual reports of Ethiopian insurers

According to the trends in Table 2 and Figure 2, modest firm-wise fluctuations are visible in Ethiopia's insurance sector's capital structure, ranging from 1.19 to 3.41. Among the sixteen insurance companies selected for this study, the oldest government insurer, namely EIC, held the highest level of debt ranging from 1.50 times to 8.20 times (mean=3.41). The insurance premiums of its largest number of insureds, reinsurance liabilities, and substantial government finance lease obligations contributed to its unusually high D/E values. The findings in this study provide credence to the general perception that AIC, the only state-owned insurer, gets preferential support from the State. For instance, the current Ethiopian law mandates that all government agencies and enterprises are the insureds of the EIC.

TsIC, with a range of 1.89 to 4.94 (mean=2.55), and LIC, with a range of 1.40 to 3.16 (mean=2.41), were the second and third most significant users of debt financing. GIC employed the lowest debt, ranging from 0.95 to 1.84 (mean=1.19), followed by AIC ranging from 1.15 to 1.69 (mean=1.30). Another six insurers follow a financing practice with less than a 2:1 mean D/E component. All the sample insurance companies, except for EIC, fall within the mean range of 1.19-2.55 D/E rate, and 50 percent of the sample insurance companies accounted D/E ratio below two. In general, Ethiopian insurance firms relied heavily on equity finance initially and moved to debt finance at a regressive rate.

Table 2 and Figure 2 further reveal that the mean D/E ratios of Ethiopia's insurance sector slightly fluctuated between 2013 and 2022, ranging from 1.52 to 2.56, with a mean ratio of 1.94. This mean D/E ratio is below the generally accepted standard norm of 2:1, implying that the Ethiopian insurance companies employed less debt to finance their assets and operations. A D/E ratio higher than two is typically in the financial services sector (Baby et al., 2016). Hence, Ethiopia's insurance firms were not maximizing shareholder value by using debt financing to the optimal level.

The insurance sector companies in Ethiopia share similarities with the banking sector firms in

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that they have an ordinary source of financing in the form of insurance premiums and are operating in an economy where a formally organized secondary stock market does not exist at all. Nevertheless, this study found that the insurance sector companies have a lower D/E ratio (mean=1.94) compared to the banking sector companies (mean=7.04:1) and the generally accepted standard norm of 2:1. High regulatory performance in the insurance sector, availability of equity funding to the insurers from their sister banks, and insurers' strong internal equity generating capacity could be the possible explanations for the observed low average D/E ratio (mean=7.04) in the Ethiopian insurance firms.

The Ethiopian finance sector regulator has a close eye on the existence of an adequate level of the insurers' capital resources, technical provisions, and solvency margin to withstand business risks and meet the insured's liabilities. Consequently, the extant insurance law requires insurance companies to maintain an adequate level of capital for each class of insurance business in the form of legal reserve, technical provisions, contingencies, and margin of solvency, resulting in a lower average D/E ratio (Abate & Kaur, 2023). Another possible argument for the low D/E ratio of insurers in Ethiopia could be that most Ethiopian insurance companies were founded by Ethiopian banks, making it easy to generate equity funds by offering equity shares (stock dividends) to their sister banks. Yet again, higher profit margins and strong internal fund-generating capacity through which they can meet their financial requirements could contribute to the low D/E ratio of Ethiopian insurers. This study's result contradicts what Ansong & Ekow-Asmah (2013) observed: Ghana has a higher proportion of debt-to-equity ratio.

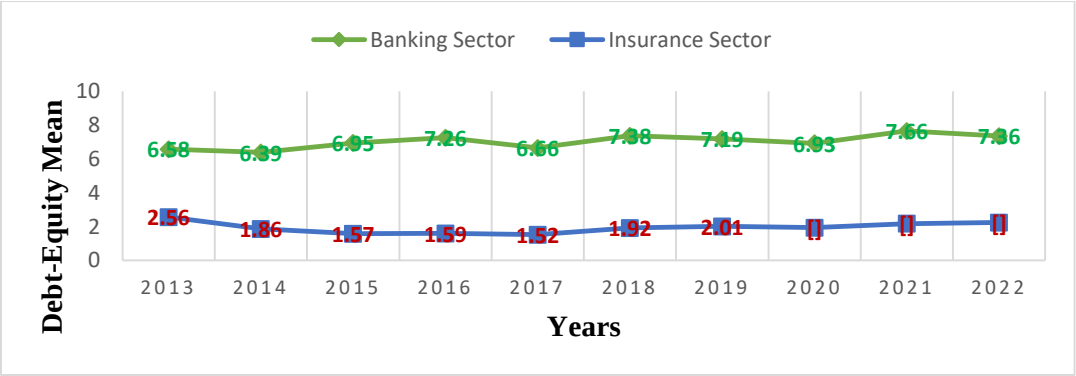
6.3 Variations in capital structure between banking and insurance sectors

Table 3 and Figure 3 below summarize descriptive statistics regarding the trends in Ethiopia's banking and insurance sectors' capital structure (average debt-equity ratios) patterns.

Table 3: Summary of descriptive statistics

Variable	Sectors	N	Mean	Std. Deviation	Std. Error Mean
D/E Ratio	Banking Sector	10	7.036	0.4044	0.12788
	Insurance Sector	10	1.937	0.3291	0.10407

Fig 3: Capital Structure Trends of Ethiopia's Banking and Insurance Sectors



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An independent t-test has been performed to statistically test whether there is any significant difference in the capital structures of banking and insurance industries in Ethiopia. The result is given below in Table 4.

Table 4: **Summary of independent samples t-test statistics**

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.954	0.342	30.926	18	0.000	5.099	0.16488	4.7526	5.4454
Equal variances not assumed			30.926	17.287	0.000	5.099	0.16488	4.75158	5.44642

The study used the 5% significance level (95% confidence level) to test the research hypothesis, and Table 4 shows that the calculated 'P' value is less than 0.05. Thus, the null hypothesis is rejected, i.e., there is no significant difference in the capital structure patterns between the Ethiopian banking and insurance sectors. We can thus conclude a statistically significant difference in the capital structure measured by D/R ratios between the Ethiopian banking and insurance sectors over the study period. In other words, these two sectors have different cultures in capital structure decisions.

6.4 Comparison of trends in capital structure and macroeconomic environment

Table 5 and Figure 4 below summarize trends in the financial industry's capital structure (mean D/E ratio) and Ethiopia's macroeconomic environment (Real GDP growth rate).

Table 5: Summary of trends in industry capital structure and macroeconomic environment

Years	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Industry D/E Ratio	9.14	8.25	8.52	8.85	8.18	9.30	9.20	8.86	9.83	9.60
RGDP Growth Rate	9.94	10.30	10.41	7.96	10.15	7.71	9.00	6.06	6.26	6.40

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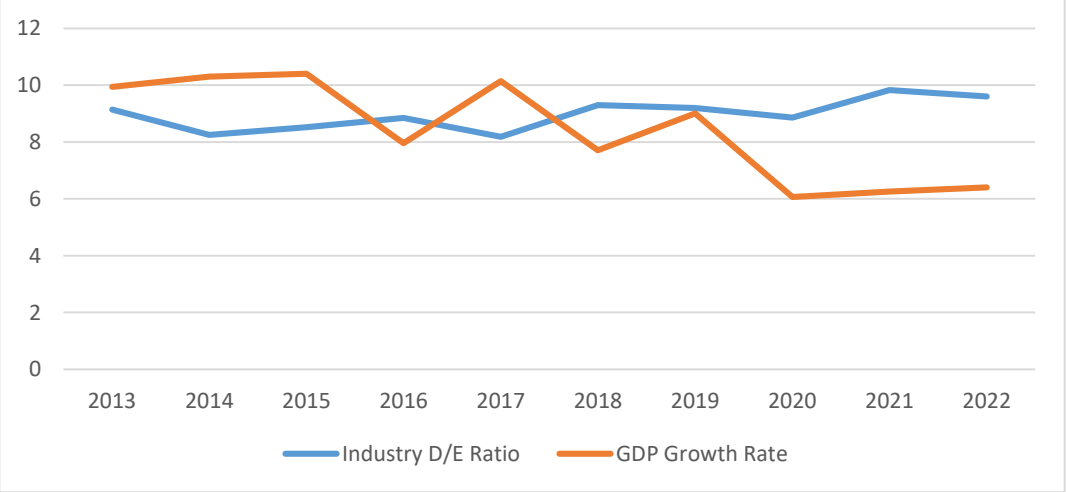
Fig 4: Trends in capital structure and macroeconomic environment



As shown in Table 5 and Figure 4, comparing the financial sector's average D/E ratios to the economy's growth rate reveals certain similarities in the two trends. Both show a somewhat volatile trend between 2013-2022. This volatility indicates that macroeconomic environmental issues considerably influence the capital structures of banking and insurance firms in Ethiopia. The result of this study is consistent with the outcome of Jie (2019).

7. CONCLUDING REMARKS

The research paper shed light on the nature of the capital structure of Ethiopian banks and insurers and the extent of variances in the capital structure of Ethiopian banking and insurance sectors. For this purpose, the researchers collected the annual financial reports of 16 banks and 16 insurance companies for ten years from 2013 to 2022. The trend analysis using the D/E ratio as the primary capital structure variable shows that Ethiopia's banking sector companies rely heavily on debt financing (mean D/E ratio=7.04:1), indicating a high financial risk level. In contrast, Ethiopia's insurance sector companies employed a lower level of debt finance (Mean D/E ratio=1.94:1) than the standard norm of 2:1, suggesting that Ethiopian insurers should utilize debt finance optimally to maximize shareholder value. Besides, the macroeconomic climate influences the trend in the capital structure patterns of financial companies in Ethiopia.

The research outcome also indicates that the capital structures of the Ethiopian banking and insurance sectors had significant differences over the study period. The peculiarity of the banking sector, the nonexistence of a formal secondary stock market to attract equity investors by the banking sector, the increase in public confidence in the banking system, solid regulatory performance in the insurance sector, insurers' access to raising equity funds from their sister banks, and insurers' internal-equity generating ability may have contributed to the observed differences.

The study results are consistent with prior empirical research that concluded different industries followed different capital structure patterns. It is also aligned with the findings of earlier studies

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that banking companies are more likely to have very high D/E values. Nevertheless, further empirical studies on more sectors in Ethiopia are needed to verify the consistency of the findings across various sectors. Including new capital structure variables, other measurements, or different capital structure compositions, such as interest-bearing debt ratio, short-term debt ratio, interest coverage ratio, and design of firms by age, size, and ownership structure, may reveal additional insights into the nature of Ethiopia's corporate capital structure.

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