

Analysis of the Earnings and profitability performance of insurance companies- A study in Ethiopian Context

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Abstract:

Abusiness organization is always established with the aim of earning profit from its operations. Without earning profit, growth and stability of a business firm is not possible. this study aims to examine the earnings and profitability performance of selected insurance companies by employing indicators from the CAMEL framework during the period 2009/10 to 2018/19. The study is basically based on secondary data that has been gathered from annual report of selected Insurance companies, from National bank of Ethiopia, Journals and websites. To analyse the 'earnings and profitability' performance, eight Insurance Companies were taken up for the study. For analysing the earning and profitability performance, five variables namely return on equity, investment income ratio, expenses, losses and combined ratios have been taken. For analysis of data, descriptive statistics was used and a t-test has been applied to see the significances in performance in in terms of the selected variables over the study period. Statistical results of the study revealed a significant performance in return on equity and investment income that ultimately result in improved profitability. The study also revealed that the expense and loss ratios showed significant differences over the study period that ultimately result in a decrease in profitability of the insurers.

Key words: 1.profitability, 2.statistical analysis, 3.loss ratio, 4.ROE, 5.Expenses ratio, 6.Insurance company

1. Introduction

Insurance is a necessary means by which a disaster to an individual or a society is shared by others, resulting in massive catastrophes being minimised and, eventually, rectified. Insurance companies play a critical role in the financial services industry in both developed and developing countries, contributing to economic growth, liquidity creation, transaction cost reduction, the spread of financial losses and the facilitation of economies of scale in investment.

When insurance firms are in good financial condition and making a substantial profit, they can keep their obligations to policyholders. Profit not only improves insurers' solvency, but it also persuades policyholders and shareholders to provide funds to insurance companies. In this ever-changing and competitive globalised world, no insurer can attract outside capital unless it makes a profit. As a result, one of the goals of insurance company management is to achieve profit as an underlying condition for

conducting any insurance business. It became very important and required to undertake a research study to evaluate the insurers' profitability position in order to determine whether they are maintaining a fair level of profits and showing a sustainable rise of earnings. As a result, the purpose of this study was to examine the profitability performance of insurance businesses in Ethiopia.

2. Review of Related literatures

Monteiro and Nijumon (2017) employed a CAMEL basis to evaluate the profitability of general insurance businesses in India, using data from secondary sources for public and private insurers from 2006-07 to 2015-16. The analysis took into account net premium, incurred claims, commission expenses, operating expenditures and net profit. Using ratios as the foundation of analysis and statistical methods such as descriptive statistics, standard deviation, mean, correlation and multiple regression, it was discovered that public insurers outperform private insurers in terms of profitability and management soundness. Furthermore, the variables evaluated in the study, such as net premium, operating expenses, commission expenses and investment income do not have a relationship with companies' net profit.

Tomar et al. (2019) carried out a study to evaluate the financial performance of selected insurance companies using the CAMEL framework's profitability and efficiency measures. The indicators of earnings and profitability of the CAMEL framework were chosen based on the data available, the relevance and significance of data for the study. Data from secondary sources such as annual reports of selected insurers, annual IRDA reports, journals, websites and other sources were used in the analysis. Three of the five ratios calculated in this analysis, namely the expenditure ratio, net claim incurred ratio, and combined ratio, have been identified as critical for underwriting and must be kept to a minimum in order for general insurers to have a good and meaningful performance.

In relation to earnings and profitability factors, studies have identified several elements like investment income and liquidity (Chen, 2014); underwriting risk, inflation, and equity returns (Ćurak et al., 2011); type of company and underwriting risk Adams and Buckle (2010), gross premiums and volume of equity (Charumathi, 2012); growth in premiums reinsurance and operating expenses (Akotely et al. 2013). Similarly, the significance of underwriting risk was also supported by Al Hassan et al. (2015) and Kasturi (2006).

The performance of the two known life insurers in India, ICICI and SBI, in terms of earnings and profitability, has been studied using the indicators in the CAMEL framework from 2010/11 to 2017/18. The necessary secondary data for analysis was obtained from IRDAI (hand book of Indian insurance statistics). In addition to the ratio Analysis, the data acquired has been evaluated using statistical methods such as the mean, standard deviation and t-test. The analysis of the results indicated that there is a considerable difference in relation to the performance of earnings and profitability between ICICI and SBI life insurers. In terms of income on investment and return on equity ratios, ICICI life was judged to perform better and thus be more profitable than SBI life based on the three earnings and profitability indicators evaluated.

According to a study conducted by Modi (2011) on four of non-life insurance companies in India, all of the companies' overall management and profitability improved significantly during the study period. Insurance companies have a tendency to offset underwriting losses with investment income, which is a very risky insurance management practise. Insurance companies must focus more on effective underwriting; otherwise, their market viability will be called into question.

Research on the profitability performance of insurance businesses in Ethiopia have received less attention. Even previous research studies were limited to a three to five-year time frame, making it difficult to draw meaningful conclusions about trends in insurer profitability performance. As a result, given the growing relevance of the insurance industry in Ethiopia, this study was done to fill a gap in the literature and to bring value to it in a variety of ways.

3. Research Objectives

1. To examine the earnings and profitability performance of selected insurance companies based on CAMEL parameters over the study period from 2009/10 to 2018/19.
2. To study the trend of earnings and profitability performance of selected insurers using statistical measures over the ten years period.

4. Research Hypothesis

1. **H₀₁**: There is no statistically significant difference in terms of the expense ratio for the selected insurance companies over the study period from 2009/10 to 2018/19.
2. **H₀₂**: There is no statistically significant difference in terms of the loss ratio for the selected insurance companies over the study period from 2009/10 to 2018/19.
3. **H₀₃**: There is no statistically significant difference in terms of the combined ratio for the selected insurance companies over the study period.
4. **H₀₄**: There is no statistically significant difference in terms of the return on equity (ROE) for the selected insurance companies over the study period.
5. **H₀₅**: There is no statistically significant difference in terms of the Investment Income to Net Premiums for the selected insurance companies over the study period.

5. Research methodology

5.1. Data type and source

Secondary data from the National Bank of Ethiopia and the head offices of the sampled insurance companies, journals and websites were used in this investigation. The data was acquired from eight insurance companies, out of a total of 17 in operation in the country.

The insurers for the study were chosen via purposive sampling, with the requirement that they have worked in the insurance industry for at least ten years. Moreover, these insurance companies in the sample provide continuous data over the study period (2009/10 to 2018/19). Eight insurance companies were identified that met the inclusion criteria for the study. Hence, The Eight insurance companies chosen include Ethiopian insurance corporation, Awash, Nile, Africa, Nyala, United, Oromia and Nib insurance companies.

5.2. Method of Data Analysis

The analysis was carried out using the CAMEL framework. Financial Soundness Indicators (FSIs) for the Insurance Industry can be given under the CAMEL [Capital sufficiency, Asset quality, Reinsurance and Actuarial issues, Management soundness, Earnings/Profitability and Liquidity) framework, according to an IMF background paper from 2003. The earnings and profitability parameter of the CAMEL framework has been the subject of this study, and some indicators/ratios from this category were chosen to conduct the research. Apart from ratio analysis, statistical methods such as mean and standard deviation were employed to analyze the quantitative data. SPSS software was used to test the ratios statistically. The results were confirmed using a one-sample t-test. One sample t-test has been used to verify the results.

6. Earnings and profitability category

Every business strives to make a profit because it is essential for any kind of business to function as a going concern. Low profitability indicates that the insurer must deal with operational and other issues. Profitability ratios can be used to assess an insurer's efficiency and ability to make profits. These ratios depict the management's effectiveness in generating profits from assets used and the money invested in

the business. For the purposes of this study, five measures were used to evaluate the insurers' earning and profitability performance: Expense ratio, loss ratio, combined ratio, return on equity ratio and investment income to net premium ratio.

6.1. Expense ratio analysis

The expenses to net premium ratio shows the relationship between the amount of expenses incurred and the amount of net premium earned. It shows how well the company is doing in terms of controlling the expenses while earning the net premium. It is preferred to have a lower ratio, which means a smaller proportion of expenses to premium. In order for the management to generate additional value for shareholders, insurance companies are required to maintain an acceptable standard range (bench mark) of less than 20% for expense ratio. Relating to this, the majority of private insurers appear to be exceeding the benchmark, with an expense ratio of more than 20%. The smaller the expense ratio, the better for the insurance firm, because it results in higher profits.

Table-1 Expense ratio analysis of selected insurance companies

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Mean
Awash	0.20	0.16	0.13	0.14	0.16	0.18	0.23	0.18	0.32	0.35	0.21
Africa	0.15	0.12	0.15	0.15	0.21	0.23	0.21	0.23	0.21	0.24	0.19
EIC	0.17	0.18	0.19	0.12	0.18	0.12	0.13	0.17	0.23	0.18	0.16
Nile	0.26	0.24	0.20	0.24	0.24	0.27	0.22	0.20	0.16	0.20	0.22
United	0.13	0.26	0.23	0.23	0.26	0.29	0.26	0.31	0.29	0.32	0.26
Nyala	0.68	0.47	0.22	0.22	0.22	0.26	0.25	0.27	0.29	0.31	0.32
Nib	0.43	0.42	0.27	0.44	0.19	0.27	0.31	0.29	0.28	0.32	0.32
Oromia	0.55	0.26	0.14	0.13	0.12	0.15	0.16	0.20	0.19	0.17	0.21
Mean	0.32	0.26	0.19	0.21	0.20	0.22	0.22	0.23	0.25	0.26	

Source: Author's own computation from Insurance Companies' Annual Reports of

Throughout the study period, the insurers' expenses to net premium ratios showed a fluctuating trend and a mixed score, reporting a rate within the limit in some years and beyond the limit in others. The Ethiopian Insurance Corporation (EIC), the country's only public insurer, appears to be in control of its management expenses, as indicated by low expense ratios, with all rates falling within the acceptable range (below 20%) except in 2017/18, when it reported a ratio of 0.23. (23 percent).

6.1.1. Statistical Analysis (Expense ratio)

To test the statement of hypothesis, the descriptive statistics (Table-2) and output of One-Sample Test (Table-3) relating to the expense ratios from CARMEL framework for the selected insurers are presented and analysed.

Table-2 One-Sample Statistics for expense ratio					
Ratio	Insurers	N	Mean	Std. Deviation	Std. Error Mean
	Awash	10	.2050	.07457	.02358
	Africa	10	.1900	.04295	.01358
	EIC	10	.1670	.03466	.01096
Expenses to Net	Nile	10	.2230	.03335	.01055
Premium Underwritten	Nib	10	.3220	.08230	.02603
	Nyala	10	.3190	.14685	.04644
	Oromia	10	.2070	.12720	.04022
	United	10	.2580	.05432	.01718

It has been observed that the mean scores of the expense ratios of each of the private insurers over study period were relatively higher compared to the acceptable standard range (less than 20 percent). It's possible that the reason for the larger expense ratio is due to rivalry for a larger part of the country's underserved insurance market. EIC had the lowest mean Expense ratio score of 0.167, with a lower standard deviation of 0.03466, indicating that the expense ratio fluctuated little over the study period.

6.1.2. Testing of Hypothesis:

The expense ratios calculated and reported in table-1 for each of the selected insurers were tested with a one-sample T-test to examine if such ratios over the study period were statistically significant.

H₀₁: There is no statistically significant difference in terms of the expense ratio for each of the selected insurance companies over the study period from 2009/10 to 2018/19.

Table-3 One-Sample Test for the Expense ratio							
Ratio	Insurers	Test Value = 0					
		t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
	Awash	8.693	9	.000	.20500	.1517	.2583
	Africa	13.990	9	.000	.19000	.1593	.2207
	EIC	15.238	9	.000	.16700	.1422	.1918
Expenses to Net	Nile	21.145	9	.000	.22300	.1991	.2469
Premium	Oromia	5.146	9	.001	.20700	.1160	.2980
	United	15.019	9	.000	.25800	.2191	.2969
	Nyala	6.869	9	.000	.31900	.2139	.4241
	Nib	12.372	9	.000	.32200	.2631	.3809

Interpretation

H₀(1): The null hypothesis is rejected since the statistical data derived in table-3 above relating to Expenses ratio reveal a p-value of 0.000 for each of the selected insurers, which is less than 0.05. It means that there is a considerable difference in the expense ratio performance of the insurers over the research

period. Hence, it may be assumed that these insurers either did not make a significant attempt to reduce their expenses or that they incurred more expenses in a rush to compete for the country's untapped insurance market, which will result in a decline in their total profitability.

6.2. Loss ratio analysis

The profit of insurance companies could be significantly influenced by the incurred claims that the insurance companies have written. The loss ratio, commonly known as the claim ratio, is a component of the earnings and profitability determined by dividing the incurred claims (net) to net premium earned. The loss ratio is a measure of risk that has not been transferred to reinsurance companies, and indicates the extent to which the earned premium may be used to settle the incurred claims. It is preferable to have a lower loss ratio.

Insurance businesses are required to maintain a loss ratio within an acceptable standard range (benchmark) of less than 70% of net premium in order for the management to generate additional value for shareholders.

The private insurers Awash and United appear to have a better risk management strategy for controlling claim expenses, as indicated by the low loss ratios, with all rates being below 70% during the study period. Similarly, EIC appears to be in control of its claim expenses, as demonstrated by low loss ratios.

Table-4 Loss ratios for selected insurers

INS. COMPS	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Mean
Awash	0.60	0.54	0.61	0.46	0.57	0.64	0.64	0.61	0.58	0.56	0.58
Africa	0.77	0.80	0.83	0.83	0.86	0.85	0.80	0.85	0.88	1.02	0.85
EIC	0.51	0.53	0.31	0.29	0.59	0.58	0.59	0.58	0.81	0.65	0.54
Nile	0.57	0.71	0.70	0.73	0.68	0.68	0.77	0.73	0.73	0.56	0.69
Oromia	0.36	0.33	0.39	0.45	0.77	0.56	0.66	0.70	0.58	0.60	0.54
Nib	0.14	0.23	0.22	0.27	0.70	0.69	0.71	0.71	0.81	0.66	0.51
United	0.55	0.69	0.63	0.53	0.51	0.52	0.62	0.68	0.68	0.57	0.60
Nyala	0.73	0.72	0.43	0.52	0.53	0.62	0.72	0.56	0.53	0.49	0.59
Mean	0.53	0.57	0.51	0.51	0.65	0.64	0.69	0.68	0.70	0.64	

Source: Author's own computation from the Annual Reports of Insurance Companies

With respect to insurers performance in terms of managing their claim costs, the mean loss ratio almost in all years of the study period were found fall within the limit (less than 70%).

6.2.1. Statistical Analysis (Loss/Claim ratio)

To test the statement of hypothesis, the descriptive statistics (Table-5) and output of One-Sample Test (Table-6) relating to the claim ratios from CAMEL framework for the selected insurers are presented and analysed.

Table-5 One-Sample Statistics of insurers' loss ratio

Ratio	Insurers	N	Mean	Std. Deviation	Std. Error Mean
	Awash	10	.5810	.05363	.01696
	Africa	10	.8490	.06839	.02163
	EIC	10	.5440	.15255	.04824
Net claims incurred to	Nile	10	.6860	.06915	.02187
Net earned premiums	United	10	.5980	.07068	.02235
	Nyala	10	.5850	.10680	.03377
	Nib	10	.5140	.26201	.08285
	Oromia	10	.5400	.15114	.04780

Over the ten-year study period, the mean scores of all insurers' loss ratios were in a good position, being lower than the permissible standard range of less than 70 percent. The only insurer with a mean loss ratio over the permissible standard range of less than 70% is Africa Insurance Company.

In terms of variability, Nib insurance company had by far the biggest loss ratio fluctuation (SD 0.26201). The loss ratio fluctuation for Awash insurance business is the lowest (SD 0.05363), indicating that the amount of claim costs incurred was relatively consistent across years during the study period.

6.2.2. Testing of Hypothesis:

The loss ratios calculated and reported in table-4 for each of the selected insurers were tested with a one-sample T-test to examine if these ratios over the study period were statistically significant.

H₀₂: There is no statistically significant difference in terms of the loss ratio for each of the selected insurance companies over the study period from 2009/10 to 2018/19

Table-6 One-Sample Test for the loss ratio

Ratio	Insurers	Test Value = 0					
		t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
	Awash	34.256	9	.000	.58100	.5426	.6194
	Africa	39.259	9	.000	.84900	.8001	.8979
	EIC	11.277	9	.000	.54400	.4349	.6531
Net claims incurred to	Nile	31.370	9	.000	.68600	.6365	.7355
Net earned premiums	Oromia	11.298	9	.000	.54000	.4319	.6481
	United	26.755	9	.000	.59800	.5474	.6486
	Nyala	17.322	9	.000	.58500	.5086	.6614
	Nib	6.204	9	.000	.51400	.3266	.7014

Interpretation

The statistical data on loss ratio in table-6 above shows that each of the selected insurers has a p-value of 0.000, which is less than 0.05 and hence the null hypothesis is rejected. It means that across the research period, there is a significant difference in each of the insurers' expense ratios. As a result, over the

research period, the selected insurers have experienced an increasing claim expense, that could lead to a fall in the insurers' profitability.

6.3. Combined ratio

The combined ratio can be used to assess how successfully insurance businesses operate their day-to-day operations in order to provide a complete picture of their profitability. It is calculated by adding the expense and loss ratios and is usually represented as a percentage.

A combined ratio of less than 100 percent indicates that the insurers are making an underwriting profit, whilst a ratio of more than 100 percent indicates that the insurers have spent all of the money collected from premiums on expenses and claims Hampton, (1993).As a result, insurance companies with a combined ratio more than 100% indicate that the generated premiums from their underwriting activity may be exhausted to cover claims and expenses. It also implied that insurers could misuse their risk selection policy and their expenditure policy, resulting in a drain of resources from operations.

Only a few insurance companies, such as Africa Insurance Company, recorded a combined ratio more than 100 percent, implying that they paid out more than they earned from their underwriting operations, as seen in table-7 below. It also means that the amount produced through investment income, as well as every birr received as a premium, can be used to pay for expenses and claims the insurers.

Table-7 Combined ratio for selected insurance companies

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Mean
Awash	0.80	0.70	0.74	0.60	0.73	0.82	0.87	0.79	0.90	0.91	0.79
Africa	0.92	0.92	0.98	0.98	1.07	1.08	1.00	1.09	1.09	1.26	1.04
EIC	0.68	0.70	0.50	0.40	0.76	0.71	0.71	0.75	1.03	0.83	0.71
Nile	0.82	0.95	0.89	0.97	0.92	0.95	1.00	0.93	0.88	0.77	0.91
Nib	0.57	0.65	0.49	0.72	0.89	0.96	1.02	0.99	1.09	0.97	0.84
Nyala	1.41	1.19	0.65	0.74	0.74	0.88	0.97	0.83	0.82	0.80	0.90
Oromia	0.91	0.59	0.54	0.59	0.89	0.71	0.82	0.90	0.77	0.77	0.75
United	0.69	0.95	0.86	0.75	0.76	0.81	0.89	1.00	0.97	0.90	0.86
Mean	0.85	0.83	0.71	0.72	0.85	0.87	0.91	0.91	0.94	0.90	

Source: Author's own computation from the Annual Reports of Insurance Companies

6.3.1. Statistical Analysis (Combined ratio)

For testing of our hypothesis, the descriptive statistics (Table-8) and output of One-Sample Test (Table-9) relating to combined ratios from CAMEL framework for the selected insurers are presented and analysed.

Table-8 One-Sample Statistics for loss ratio

	N	Minimum	Maximum	Mean	Std. Deviation	Std. Error Mean
Awash	10	.60	.91	.7860	.09663	.03056
Africa	10	.92	1.26	1.0390	.10192	.03223
EIC	10	.40	1.03	.7070	.17062	.05396
Nile	10	.77	1.00	.9080	.07021	.02220
Oromia	10	.54	.91	.7490	.13755	.04350
United	10	.69	1.00	.8580	.10315	.03262
Nyala	10	.65	1.41	.9030	.23200	.07336
Nib	10	.49	1.09	.8350	.20999	.06640

Across the ten-year study period, the mean combined ratio scores of all insurers were in good shape, being less than 100%. Africa Insurance Company is the only insurer with a slightly higher mean combined ratio than 100 percent. If the ratio is greater than 100 percent, it signifies that both operational and non-operational income is drained in losses and expenses. Nyala insurance business showed the most variability (SD 0.2320), followed by Nib insurance (SD 0.2100), indicating that the expenses and claims incurred by both insurers changed significantly over the study period. Meanwhile, the Awash insurance company's combined ratio fluctuation is the lowest (SD .07021).

6.3.2. Testing of Hypothesis:

A one-sample t-test was used to see if the combined ratios calculated and given in table-7 for each of the selected insurers were statistically significant over the study period.

H03: There is no statistically significant difference in terms of the combined ratio for each the selected insurance companies over the study period from 2009/10 to 2018/19.

Table-9 One-Sample Test for loss ratio						
Insurance Companies	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Awash	25.722	9	.000	.78600	.7169	.8551
Africa	32.237	9	.000	1.03900	.9661	1.1119
EIC	13.103	9	.000	.70700	.5849	.8291
Nile	40.899	9	.000	.90800	.8578	.9582
Oromia	17.219	9	.000	.74900	.6506	.8474
United	26.304	9	.000	.85800	.7842	.9318
Nyala	12.308	9	.000	.90300	.7370	1.0690
Nib	12.575	9	.000	.83500	.6848	.9852

Interpretation

The null hypothesis (H03) is rejected based on the statistical data on combined ratio in table-10, which reveals that each of the selected insurers has a p-value of 0.000, which is less than 0.05. It means that there is a large difference in each insurer's combined ratios across the research period (2009/10 to 2018/19). As a result, the selected insurers have seen an increase in losses and expenses over the research period, which could lead to a decrease in profitability.

6.4. Return on Equity

The return on equity (ROE) is a ratio-based metric that shows how much profit a company makes on the money invested by its owners. It demonstrates how effectively the money invested in the business by shareholders has been used to generate acceptable returns, and is thus regarded as a true measure of management efficiency. The return on equity (ROE) is calculated as a percentage of net profit (profit after interest and taxes) divided by equity share capital. A higher ROE for insurance businesses indicates that the company has gotten more profitable and that shareholders can expect considerably higher payouts.

In this regard, insurance companies are expected to generate a return on equity (ROE) of 10 to 15 percent as an acceptable range or bench mark. Relating to this, as indicated in table-11 below, the majority of the selected insurers appear to be exceeding the benchmark, reporting an ROE of more than 15%

Table-10 ROE analysis of selected insurance companies (Figures in percentage)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Mean
Awash	29.11	23.99	28.73	43.02	30.11	30.27	28.68	26.35	13.02	13.77	26.70
Africa	19.70	16.21	16.04	14.76	16.78	13.02	11.98	15.57	15.51	-0.90	13.87
EIC	28.68	30.29	36.52	42.32	46.54	53.13	25.42	27.15	25.23	31.38	34.67
Nile	25.19	20.27	21.41	22.67	29.40	16.96	6.97	27.90	13.86	21.35	20.60
Oromia	-32.41	6.90	21.45	33.08	24.47	32.84	20.28	18.63	24.33	23.15	17.27
United	17.81	22.16	25.65	26.42	24.94	26.14	17.23	28.11	23.32	23.83	23.56
Nyala	23.87	23.72	25.62	29.60	25.52	28.65	20.11	26.59	19.88	20.14	24.37
Nib	27.67	24.79	29.17	27.57	27.99	20.33	12.77	16.13	17.41	24.15	22.80
Mean	17.45	21.04	25.57	29.93	28.22	27.67	17.93	23.30	19.07	19.61	

Source: Computed from selected Insurance companies' Annual Reports

6.4.1. Statistical Analysis (Return on Equity)

For testing of the hypothesis, the descriptive statistics (Table-11) and output of One-Sample Test (Table-12) relating to Return on equity ratios from CAMEL framework for the insurers are presented and analysed.

Table-11 one-sample Statistics of Return on equity ratio.							
Insurance Company	Ratio	N	Minimum	Maximum	Mean		Std. Deviation
		Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
EIC	<i>Combined ratio (Expense ratio + Loss ratio)</i>	10	.2523	.5313	.346660	.0305637	.0966511
Awash		10	.1302	.4302	.267050	.0272103	.0860464
Nile		10	.0697	.2940	.205980	.0211309	.0668219
Africa		10	-.0090	.1970	.138670	.0176843	.0559226
Nyala		10	.1988	.2960	.243700	.0110734	.0350171
United		10	.1723	.2811	.235610	.0114034	.0360606
Oromia		10	-.3241	.3308	.172720	.0599320	.1895216
Nib		10	.1277	.2917	.227980	.0182577	.0577358

As shown in table-11, over the ten-year study period, the mean scores in Return on equity ratio of the individual insurers were in a good position, the majority of which exceed the acceptable range of 10 to 15 percent. EIC by far reported the maximum mean Return on equity ratio of 34.67 percent while the lowest ROE was reported by Africa insurance Company which is still within the acceptable range.

In terms of variability, Oromia insurance company had by far the biggest Return on equity ratio fluctuation (SD 0.1895) while, Nyala insurance company reported the lowest SD of 0.3502 indicating that the amount of return generated was relatively consistent across years during the study period.

6.4.2. Testing of Hypothesis:

A one-sample T-test was used to see if the Return on equity ratios calculated and given in table-11 for each of the selected insurers were statistically significant over the study period.

H₀₄: There is no statistically significant difference in terms of the return on equity (ROE) for each of the selected insurance companies over the study period from 2009/10 to 2018/19.

Table-12 One-Sample Test for combined ratio							
Ratio	Insurance companies	Test Value = 0					
		t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
<i>Combined Ratio (Expense ratio + Loss ratio)</i>	Awash	9.814	9	.000	.2670500	.205496	.328604
	Africa	7.841	9	.000	.1386700	.098665	.178675
	EIC	11.342	9	.000	.3466600	.277520	.415800
	Nile	9.748	9	.000	.2059800	.158179	.253781
	Oromia	2.882	9	.018	.1727200	.037144	.308296
	United	20.661	9	.000	.2356100	.209814	.261406
	Nyala	22.008	9	.000	.2437000	.218650	.268750
	Nib	12.487	9	.000	.2279800	.186678	.269282

Interpretation

The null hypothesis (H₀₄) is rejected based on the statistical data on Return on equity ratio in table-13, which reveals that all of the selected insurers have a p-value of 0.000, except Oromia insurance company with a p-value of 0.018, which is still less than 0.05. It means that there is a large difference in each insurer's Return on equity ratios across the research. As a result, the selected insurers have seen an

increase in Return on equity and are profitable so that shareholders can expect considerably higher payouts.

6.5. Investment income ratio Analysis

The investment income ratio is the proportion of an insurance company's investment income to its net earned premium. It is useful to assess the profitability of insurance firms' investments, and hence crucial to determine their financial stability. The ratio can also be used to compare the income generated by insurers' investing activities rather than their main operations.

Individual insurance companies' investment income ratios have revealed fluctuations in the investment income ratio as indicated in table 13.

Table-13 investment income ratio analysis of selected insurance companies (Figures in percentage)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Mean
Awash	6.71	9.25	10.10	10.19	15.07	17.76	16.98	19.14	21.43	23.59	15.02
Africa	10.28	8.49	8.90	12.46	19.60	21.83	19.65	19.81	20.01	21.90	16.29
EIC	12.34	15.45	8.01	5.81	12.72	11.10	10.94	10.95	18.85	13.94	12.01
Nile	12.86	13.62	13.17	13.82	16.95	14.58	11.67	13.09	21.08	21.42	15.23
Oromia	3.40	1.28	2.07	6.45	12.30	12.25	13.75	16.17	16.81	19.48	10.40
United	12.82	15.76	13.65	14.61	17.70	17.41	17.22	17.01	16.83	21.05	16.41
Nyala	39.36	34.36	18.70	18.09	24.14	31.16	31.81	34.25	38.76	48.30	31.89
Nib	13.88	16.09	11.85	23.99	15.47	16.75	16.85	19.06	24.44	25.70	18.41
Mean	13.96	14.29	10.81	13.18	16.75	17.85	17.36	18.69	22.28	24.42	

Source: Computed from selected Insurance companies' Annual Reports

6.5.1. Statistical Analysis (investment income ratios)

The descriptive data (Table-14) and output of the One-Sample test (Table-15) relating to investment income ratios from the CAMELS framework for insurers are presented and analysed to test the hypothesis.

Table-14 One-Sample Statistics of investment income ratio.							
Investment income Ratio	Insurers	N	Minimum	Maximum	Mean		Std. Deviation
		Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
	Awash	10	.0671	.2359	.150220	.018035	.0570325
	Africa	10	.0849	.2190	.162930	.0175398	.0554656
	EIC	10	.0581	.1885	.120110	.011570	.0365899

Investment Income	Nile	10	.1167	.2142	.152260	.0109348	.0345789
to	Oromia	10	.0128	.1948	.103960	.0208766	.0660175
	United	10	.1282	.2105	.164060	.0074203	.0234649
	Nyala	10	.1809	.4830	.318930	.0299810	.0948082
	Nib	10	.1185	.2570	.184080	.0150493	.0475901

As shown in table-14, the mean scores in investment income ratio of the individual insurers were in a good position, with 10.40 percent being the smallest mean investment income achieved. Nyala insurance companies by far reported the maximum mean investment income ratio of 31.89 percent over the study period. Nyala insurance had the largest SD of 0.0235 in investment income ratio indicating that the amount of return Nyala earned changed significantly across years. Whereas, United Insurance Company had the lowest SD of 0.0235.

6.5.2. Testing of Hypothesis:

A one-sample T-test was used to see if the investment income ratios calculated and given in table-13 for each of the selected insurers were statistically significant over the study period.

H₀₅: There is no statistically significant difference in terms of the investment income ratio for each of the selected insurance companies over the study period from 2009/10 to 2018/19.

Table-15 One-Sample Test for investment income ratio.

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Awash	8.329	9	.000	.1502200	.109421	.191019
Africa	9.289	9	.000	.1629300	.123252	.202608
EIC	10.380	9	.000	.1201100	.093935	.146285
Nile	13.924	9	.000	.1522600	.127524	.176996
Oromia	4.980	9	.001	.1039600	.056734	.151186
United	22.110	9	.000	.1640600	.147274	.180846
Nyala	10.638	9	.000	.3189300	.251108	.386752
Nib	12.232	9	.000	.1840800	.150036	.218124

Interpretation

Based on the statistical data on investment income ratio in table-16, the null hypothesis (H₀₅) is rejected because all of the selected insurers have a p-value of 0.000, which is less than 0.05. It means that the investment income ratios of each insurer showed significant difference across the research period. As a result, the selected insurers' investment income has increased, indicating that the insurers' investment profitability has improved.

7. Conclusion

Based on the foregoing discussion, it can be stated that the company's performance in terms of earning and profitability parameters was found to be quite good in majority of the points.

The mean scores of all insurers' loss ratios were in good shape in terms of claim costs over the ten-year study period, being less than the allowed standard range of less than 70%. Insurers then seemed to follow a good risk management strategy for controlling claim expenses as a result.

Insurance companies' expense ratios increased slightly toward the end of the study period. The majority of private insurers appear to be exceeding the standard in this regard (an expense ratio of less than 20 percent). The statistical examination of the expenses performance of the insurers found that there was a significant variation in their performance over the research period (2009/10 to 2018/19). As a result, insurers should strive to reduce their expense ratios, which may result in increased profitability.

It has been found that, across the ten-year study period, all insurers' average combined ratio scores were in good shape, with less than 100%. The only insurer with a slightly higher mean combined ratio than 100 percent is Africa Insurance Company. Insurers then appeared to have a good risk management approach for lowering claim costs and expenses as a result.

Individual insurers' mean returns on equity ratios were in good shape, and significant variances in each insurer's ROE ratios were noted during the study period. As a result, the chosen insurers' Return on Equity has increased and they are profitable, implying that shareholders can expect much bigger dividends over the research period.

The investment income ratio of the Individual insurers showed an increased performance towards the conclusion of the study period, showing that the insurers performed well in terms of investment profitability. Individual insurers' mean investment income ratio scores were good over the ten-year study period, with 10.40 percent being the smallest mean investment income achieved. As a result, investment income for the selected insurers has increased, showing that investment profitability has improved.

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