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Capital Adequacy and Earnings and Profitability Analysis of Life Insurance Companies: A Comparative Study of ICICI Prudential and SBI Life Insurance

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Abstract

Insurance is seen as a dependable instrument for mobilizing public funds and has been playing a significant role in both developed and developing countries. The insurance industry in India has experienced a number of transformations, including nationalization, privatization, deregulation, regulation, and globalization. Numerous private firms with the backing of foreign investors have been able to enter the market as a result of liberalization. A fierce rivalry between private and public sector firms, as well as among private sector competitors, has defined the Indian life insurance market since 2000. In light of this, the purpose of this study is to use metrics from the CARAMEL framework to investigate the capital adequacy and profitability and earnings performance of ICICI Life and SBI Life from 2017–18 to 2021-22. A t-test is used to analyze the data further, and the findings show that there is no considerable difference in the financial results of particular insurers.

Keywords: ICICI Life, SBI Life, CARAMEL framework, Mean, SD, t-test

Introduction

A contract for life insurance states that the insurer will pay a particular sum on the passing of the insured or the end of a predetermined period of time, whichever comes first, in exchange for payments known as premiums. In this case, the insured—also known as the assured—pays the premium to receive protection against loss, and the insurer is the one who reimburses the insured for any losses incurred.

Brief History and Present Condition of Life Insurance in India

In 1818, life insurance as we know it now was brought to India from England. The Oriental Life Insurance firm, founded in Calcutta by people of Europe, was the first life insurance firm in India. Subsequently, the first life insurance business in India was founded, the Bombay Mutual Life Assurance Society, in 1870. As a result, several insurance businesses were established. The first Insurance Company Act became law in 1912 with the intention of governing the insurance industry since there had been no laws in India prior to that year. The Insurance Act was passed in 1938 to regulate both the non-life and life insurance industries. India's life insurance industry was nationalized in 1956, and on September 1st, 1956, the Life Insurance Corporation of India (LIC) was established by parliamentary legislation. The Life Insurance Corporation of India dominated the Indian life insurance market from

1956 to 1999. The introduction of private involvement marked the end of LIC's monopoly in the Indian life insurance market. Consequently, a large number of private insurance companies entered the battleground by forming joint ventures with internationally renowned foreign entities as their partners.
Since 2000, the Indian life insurance market has grown significantly in terms of premium income, the number of offices and agents, new business products, and so on. Currently, twenty-two private life insurers share the Indian life insurance market, in addition to the single public insurer, LIC of India.
The two private businesses are the main focus of the current investigation. The chosen insurers' brief biographies are as follows:
Leading Indian private sector bank ICICI Bank Limited and Prudential Corporation Holdings Limited have combined to contribute 74% and 23% of the capital of ICICI Prudential Life Insurance Company. It was incorporated on July 20, 2000, and on November 20, 2000, it obtained a certificate of registration from IRDAI to conduct life insurance business. The goal of ICICI Life when it started operating in the 2001 fiscal year was to create a long-lasting organization that sensitively meets its clients' demands for long-term savings and security.
2017 saw the listing of ICICI Prudential Life, also referred to as ICICI Life, as the nation's first insurance business on the NSE and BSE. To satisfy the diverse demands of the clientele, it provides term insurance, health insurance, and unit-linked, savings, and retirement plans for both people and organizations.
The SBI Life insurance firm was formed as a joint venture. It was incorporated on October 11, 2000, and on March 29, 2001, it was granted authorization by IRDA to continue operating as a life insurance company. Value Line Pt Ltd, Macritchie Investments Pt Ltd, and the general public provided the remaining capital to SBI Life, with SBI and BNP Paribas contributing 62.1 percent and 22%, respectively. SBI Life was founded with a paid-up capital of Rs. 1000 crore and an authorized capital of Rs. 2000 crore. After relying on Bancassurance at first, SBI Life is now building its own agency team to market insurance products. The insurance solutions offered by SBI Life comprise a range of plans designed to cater to the diverse demands of different societal segments. It provides group, unit-linked, retirement, child, protection, savings, and retirement plans, among other products.

Review of Literature

Charumathi (2012) in her empirical study about the factors that determine the profitability of Indian life Insurance companies assumed that the return on assets would be a dependent variable in order to observe the impact of several factors on the profitability of Indian life insurers. Using secondary data on 22 private life insurance companies and one public insurer, the researcher conducted her investigation. The findings showed that both the amount of net premiums and liquidity had a positive impact on life insurers' profitability.
Kumari (2013) examined the economic performance of the Indian life insurance market in the years following liberalization. Numerous factors were taken into consideration for this, including the number of life insurance businesses, offices, growth in premium income, number of newly issued policies, and market share. The study found that the Indian life insurance industry's general performance had significantly improved following privatization, and it recommended that life insurers provide policyholders with an efficient and effective service in order to ensure the industry's continued growth.
Nikolina Smazla (2014) using the CARAMEL model, continued his research to determine the degree of financial health of Croatian insurance businesses. Twenty-four insurance companies operating in Croatia

are the subject of this investigation. The study found that the firms' liquidity indicators were unfavourable, and it was recommended that the Croatian insurance regulatory authorities pay attention to the insurers' adequate capital levels and liquidity metrics.

Valeed A. Ansari and W. Fola (2014) conducted a quantitative research to examine the financial soundness and performance of life insurance companies in India by employing the CARAMEL model. The study was carried out on the performance of seven registered life insurers during the period 2008-2012. The results of the study reveal that there was a significant difference between the capital adequacy, asset quality, management efficiency, earnings, profitability, and liquidity position of private and public life insurance companies.

C. Kalpana Naidu and C. Paramasivan (2015) used a sample of five life insurance businesses in an effort to compare the financial performance of LIC and private insurance companies. The authors believe that increasing unit-linked plan sales enabled the private companies to secure a sizeable market portion derived from LIC. Results indicate that LIC had a poorer track record of handling death claims, whereas private insurers had a more remarkable capital adequacy ratio. According to the study's findings, security is the main consideration when choosing an insurance plan.

Anoop Kumar Singh and Sumbul Fatima (2017) made an effort to assess the development and effectiveness of ICICI Prudential Life Insurance, a significant private life insurance provider in India. In this study, growth was evaluated using many metrics, including net profit, net premium, number of branches, and so on; the CARAMEL model was utilised for the overall assessment. The one sample t-test was used to statistically test the study's findings. The analysis showed that even though the company's capital base has not kept pace with its total assets, its overall performance has remained strong. With a comparative approach, the primary goal of all the aforementioned research is to evaluate the financial performance and soundness of life insurance firms operating in the public and private sectors. Nonetheless, the purpose of this study was to compare the profitability record of SBI Life Insurance Company and ICICI Prudential Life Insurance Company.

Bhattacharyya, A., & Barman, T. K. (2018) carried out a research project named "A Comparative Analysis of the Profitability of Public and Private Sector Life Insurance Companies in India". The study looked at the profitability of the life insurance industry in India from 2012 to 2016 by comparing the financial outcomes of organizations in the public and private sectors. The survey found that private sector companies had greater profitability ratios than public sector companies.

Singh, S., & Singh, S. (2019) the study that was conducted was called "A Comparative Analysis of Financial Performance of Life Insurance Companies in India". The study looked at the financial performance of Indian life insurance companies in both the public and private sectors from 2014 to 2018. As per the study, private sector enterprises outperformed public sector enterprises in relation to profitability criteria such as return on equity and return on assets (ROE and ROA).

Rathi, S., & Jatav, S. (2020) review was done on secondary ratio data from 2009–10 to 2018–19. The conclusions were derived from two factors: (1) the ratios of the selected firms do not significantly differ from one another, and (2) the New India insurance firm outperformed the others in seven analytical ratios. The current study employs liquidity and viability measures to assess each company's ability to repay its short-term debts as well as its overall financial health. Financial success is correlated with the act of performing financial activities. The financial information for a few state-run and private insurance businesses in India is compiled in this study.

Objective of the Study

The primary goal of this study is to use the three CARAMEL model ratios to compare the capital adequacy profitability and performance of ICICI Life and SBI Life from FY 2017–18 to 2021–22.

Statement of Hypotheses

H_01: There is no significant difference between the net premium to equity ratio of ICICI Life and SBI Life.

H_02: There is no significant difference between the investment income to net premium ratio of ICICI Life and SBI Life.

H_03: There is no significant difference between profit after tax to net equity ratio of ICICI Life and SBI Life.

Research Methodology

The current study's foundation is secondary data that was taken from several websites and the IRDAI manual on Indian insurance statistics. Aside from the ratio analysis, statistical methods like mean, SD, CV, and t-test have been employed to analyze the quantitative data.

An insurance company's overall financial situation is influenced by a variety of variables, some of which are hard to measure, like managerial caliber, organizational structure, and current systems and controls. The CARAMELS framework (capital adequacy, asset quality, reinsurance and actuarial issues, management soundness, earnings and profitability, liquidity, and sensitivity to market risk) can be used to display the quantitative financial soundness indicators for the life insurance industry. The capital adequacy and profits and profitability category of the CARAMEL framework is the primary focus of this study, and a few indicators and ratios are chosen to be used in the current analysis.

The detailed description of CARAMEL model is as under:

1. **Capital Adequacy:** One could consider capital adequacy to be the primary measure of an insurer's soundness financially. Capital is thought of as a safety net to shield the insured and advance the stability and effectiveness of the financial system. Two ratios, recommended by the World Bank and IMF, have been used to calculate the capital sufficiency of the enterprises under investigation (IMF, 2005). The Net Premium to Capital ratio comes first, followed by the Capital to Total Assets ratio.
2. **Asset Quality:** One of the most important factors in assessing an insurance company's overall financial health is asset quality. The quality of the credit management program and the real estate investment are the main factors influencing the overall asset quality. The IMF and World Bank have recommended using the ratios of equity to total assets and real estate plus unquoted equity plus debtors to total assets. The first ratio is used in the study for its objectives.
3. **Retention Ratio:** In this standard, the IMF specifies two ratios: the ratio of Net Technical Reserves to the Average of Net Claims paid over the previous three years, and the ratio of Net Premium to Gross Premium.
4. **Management efficiency:** The ratio shows operational efficiency, which in turn shows the effectiveness and stability of management. The recommended metric is the ratio of operating expenses to gross premiums.
5. **Earnings and Profitability:** In order to highlight the profits and profitability of the insurance industry, the IMF suggests five sub dimensions for this benchmark. The standard comprises two

layers that address the insurance businesses' operational and non-operational efficiency.

- **Claims Analysis:** The standard is a crucial determinant of the accuracy of their pricing strategy. The amount of claims is reflected in the premiums that are earned. Net Claims Incurred to Net Premium is the ratio that is required for this analysis.
- **Expense Analysis:** The management's expenses incurred in operating the insurance business are shown by the expense analysis; the higher the expenses, the lower the profit margin. The Management Expenses to Net Premium Earned ratio is the one that is required for this reason.
- **Combined Ratio:** The cost ratio and the claims ratio are combined to create the combined ratio. The ratio explains the possibility of profitability in the insurance industry. The ratio utilized for this standard is Claim Ratio plus Expense Ratio to Net Premiums.
- **Investment Income Analysis:** The income from investments is measured by the investment income ratio. The recommended ratio is Investment Income divided by Net Premiums.
- **ROE Analysis:** Profits to Equity is the ratio used to calculate return on equity, which is a measure of return to shareholders.

6. **Liquidity (Liquidity Analysis):** When it comes to short-term obligations, liquidity problems can become severe issues. Similarly, for non-life insurers, the current assets to current liabilities ratio is a crucial criterion.

The operational effectiveness of Indian life insurance businesses is assessed using this model. The ratio analysis is used in the model. Financial statements are analyzed using ratios in a process known as ratio analysis. The relationship between two values extracted from the financial accounts is expressed as a ratio. Because ratio analysis allows for both intra- and inter-company comparison, it is one of the best tools an analyst has at their disposal for analyzing a company's financial performance. Additionally, it offers an overview of the company's financial situation.

Capital Adequacy and Earnings and Profitability Categories of CARAMEL model

Any firm that wants to continue as a going concern needs to turn a profit, which is why all businesses strive to do. Low capital adequacy or low profitability is a symptom that the insurer has to address operational and other issues. Capital adequacy ratio indicates whether the life insurers are having adequate capital to cover their risks and safeguarding the policyholders. Profitability ratios can be used to assess an insurer's effectiveness and capacity for profit-making. These ratios paint a picture of how well management uses the capital invested and assets employed in the company to generate profits. Three ratios—net premium to capital, investment income to net premium, and return on equity—have been used for the current study's evaluation of the insurers' (i.e. ICICI Life and HDFC Life) capital adequacy and earning and profitability performance.Net premium to equity ratio: The Net Premium to Equity Ratio is a financial metric used to assess the relationship between a company's net premiums written and its equity. It is calculated by dividing the net premiums written by the equity of the company.

Net Premiums represents the total premiums an insurance company expects to receive from its policies, minus the reinsurance premiums it pays to other insurers. Here equity is the no. shares issued of the company.

The Net Premium to Equity Ratio provides insights into the company's ability to generate premiums relative to its financial base. A higher ratio suggests that the company is writing more premiums relative to its equity, which could indicate strong growth potential but may also pose risks. On the other hand, a lower ratio might imply a more conservative approach. It is essential to interpret this ratio alongside other financial indicators for a comprehensive analysis of an insurance company's performance and risk profile.

$$\text{Net premium to equity ratio} = \frac{\text{Net Premium}}{\text{Equity}} * 100$$

Table 1

Net premium to equity ratio *(in percentage)*

Insurer/Year	2017-18	2018-19	2019-20	2020-21	2021-22	Mean	Std.Dev	CV
ICICI Life	1867.68	2129.73	2289.84	2435.52	2527.05	2249.96	261.43	11.62
SBI Life	2516.00	3289.03	4032.40	4976.82	5443.20	4051.49	1197.13	29.55

Source: Appendix- 1

***Figure1.* Net premium to equity ratio**

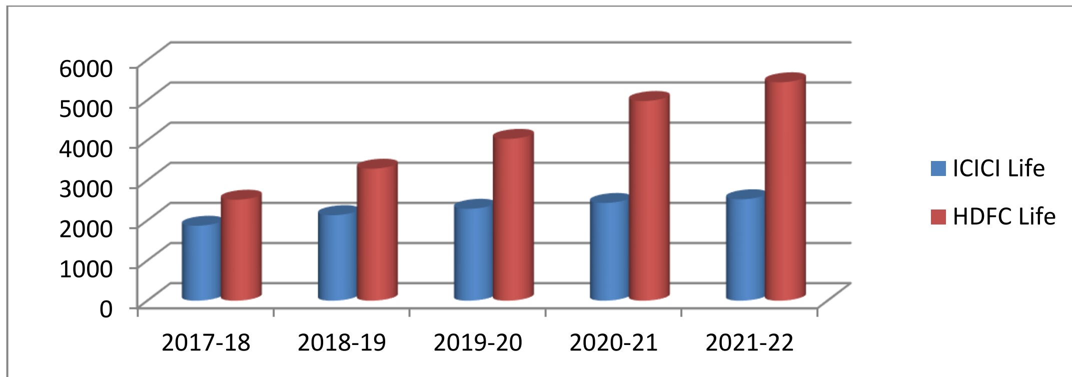


Table 1 displays the net premium to equity ratios for SBI Life and ICICI Life. The ratio of ICICI Life has fluctuated between the lowest range of 1867.68% and the maximum range of 2527.05% across the study period of FY 2017–18 to FY 2021–22. The table shows that the ICICI Life premium income ratio increased significantly during the course of the five-year study period. The ratios for SBI Life likewise increased in their movement between 2516% and 5443.2%. It shows that during the past five years, both insurers have been successful in growing their net premium income. Figure 1 illustrates how SBI Life's mean value of 4051.49 throughout the course of the 5-year study period is higher than ICICI Life's (2249.96), indicating that SBI Life outperformed ICICI Life during that time. However, HDFC Life's Coefficient of Variation over the course of the five-year study period was also substantially larger at 29.55 than ICICI Life's (11.62), indicating that ICICI Life has underwritten premiums more consistently than SBI Life.

Investment Income to Net Premium Ratio

A financial indicator used in the insurance business to evaluate the profitability of an insurance company's investment activities in relation to its underwriting operations is the investment income to net premium Ratio. The returns on investments made by the insurance firm in stocks, bonds, and other financial instruments are referred to as investment income. The total amount of premiums collected by the insurance provider less the cost of reinsurance and other associated charges is known as net premiums. It displays the income from the main underwriting operations.

If the ratio is higher than 1, it means that the investment revenue is enough to pay for the underwriting expenses and make a profit. A ratio of less than one can indicate that underwriting operations aren't bringing in enough money to pay the bills.

For insurers, this ratio is a crucial performance metric that aids in evaluating the overall financial stability of the business as well as the efficacy of its investment strategy in conjunction with underwriting activities.

Investment Income

Investment Income to Net Premium Ratio =-----------------------------*100

Net Premium

Table 2

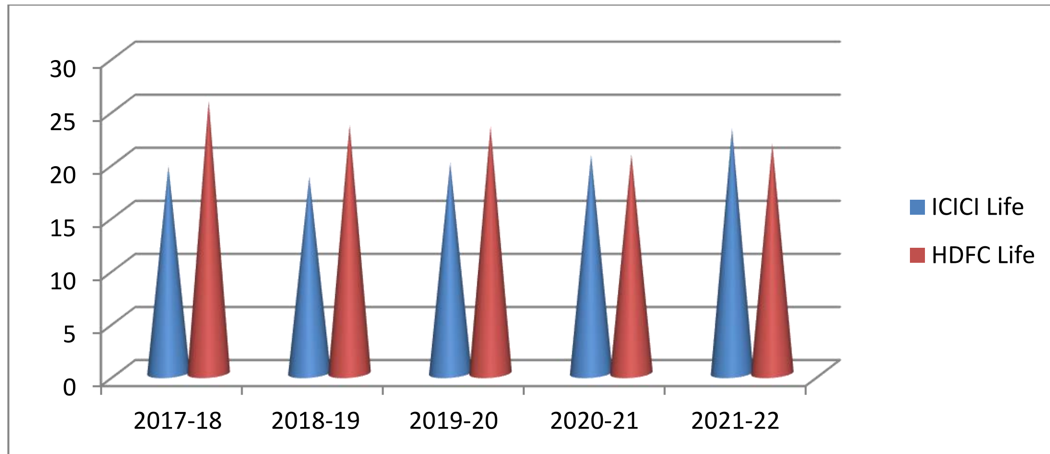
Investment Income to Net Premium Ratio *(in percentage)*

Insurer/Yea	2017-18	2018-19	2019-20	2020-21	2021-22	Mean	Std. Dev.	CV

ICICI Life	19.52	18.54	19.85	20.60	23.09	20.32	1.72	8.46
SBI Life	25.69	23.40	23.27	20.63	21.63	22.92	1.93	8.42

Source: Appendix- 1

Figure2. Investment Income to Net Premium Ratio



During the five years of the study, ICICI Life's investment income to net premium ratio fluctuated between 18.54 and 23.09. The only FY in which HDFC Life's ratio fell from the prior year was FY 2018–19; the ratio varied between 20.63% and 25.69%. HDFC Life's ratio consistently decreased from FY 2017–18 to FY 2020–21, declining for four of the five years in a row.
The mean value of ICICI Life is 20.32, indicating a slight variation in the two firms' performances compared to SBI Life's value of 22.92. However, throughout the course of these five years of research, the Coefficient of Variation of ICICI Life and HDFC Life are 8.46 and 8.42, respectively, indicating a negligible variation between the two businesses. Therefore, table 2 as a whole demonstrates that, in terms of the given ratio, ICICI Life and HDFC Life have been equally well in the course of the 5 year study period.

Return on Equity Ratio: The return on equity of an enterprise indicates the management's capacity to generate adequate returns on the money invested by the business's owners. Put another way, it illustrates how best to allocate equity share money in order to generate profits. An elevated ratio indicates the company's strong profitability and growing dividend disbursements to its shareholders. Equity share capital is divided by net profit to calculate it. In this instance, equity is referred to as share capital, while net profit is the amount of profit after taxes. Since return on equity is regarded as the compensation for the investor's initial investment, reserves and surplus are not considered while calculating this ratio. The formula that follows is used to find out the ratio:
Profit after Tax
Return on Equity ratio =-----------------------*100
Equity

Table 3

Return on Equity Ratio *(in percentage)*

Insurer/Year	2017-18	2018-19	2019-20	2020-21	2021-22	Mean	Std.	CV
ICICI Life	112.84	79.44	74.43	66.86	52.47	77.21	22.37	28.97
SBI Life	115.04	132.68	142.21	145.58	150.60	137.22	14.02	10.21

Source: Appendix-1

Figure3. Return on Equity Ratio

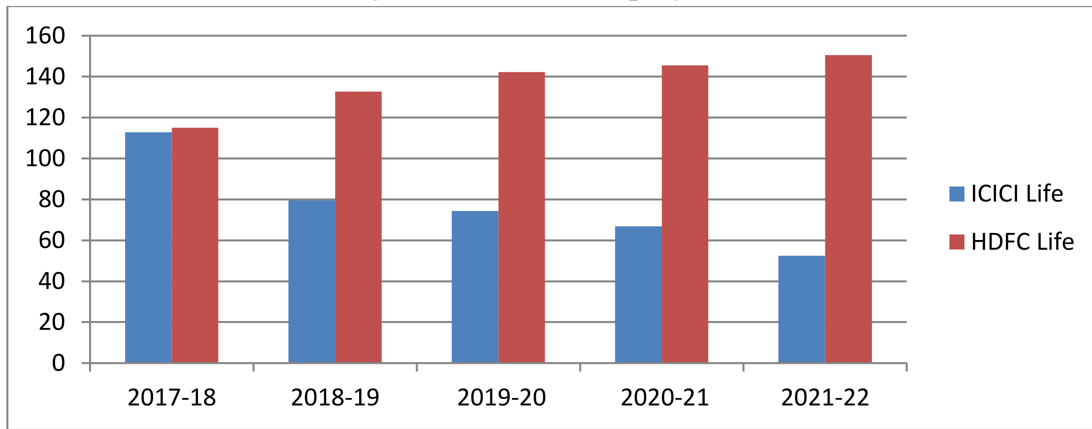


Table 3 suggests that the ROE ratio of ICICI Life saw a downward trend from FY 2017–18 to FY 2021–2022. It had a mean score of 77.21 overall. ICICI Life's ROE ratio has fluctuated between 112.84 and 52.47, whilst SBI Life's has fluctuated between 115.04 and 150.60.The ratio for SBI Life is trending rising, whereas the ratio for ICICI Life is declining annually. The good thing about SBI Life's success is that it kept raising its ratio, which indicated to investors that its profitability was rising yearly. But according to the insurers' average values, HDFC Life is doing better financially than ICICI Life.

Test Statistics

Table 4

Indicator	**Company**	**N**	**Mean**	**CV**	**t-value**	**Result at 5% sig. level (Value 2.306 at df 8)**
Net premium to equity	ICICI Life HDFC Life	5 5	2249.96 4051.49	11.62 29.55	0.0265	H0 failed to reject
Investment income to net premium	ICICI Life HDFC Life	5 5	20.32 22.92	8.46 8.42	0.0547	H0 failed to reject
Return on equity	ICICI Life HDFC Life	5 5	77.21 137.22	28.97 10.21	0.0016	H0 failed to reject

Note: T-test has been calculated assuming that two samples have unequal variances.

Testing of Hypothesis

An independent t-test has been used to statistically examine the significance of the difference between the performance of the insurance companies SBI Life and ICICI Life.

H01: There is no significant difference between the net premium to equity ratio of ICICI Life and SBI Life.

As can be seen from Table 4, the computed t-value of the test for the indicator net premium to equity ratio is 0.0265. At the 5% significance level, the computed t-value is less than the two-tailed t-test table value (2.02). Hence the null hypothesis is accepted since it points to a non-significant difference between the groups.

H02: There is no significant difference between the investment income to net premium ratio of ICICI Life and SBI Life.

Table 4 illustrates that the computed t-value of the test for the indicator investment income to net premium ratio is 0.5475. The computed t-value is less than the two-tailed t-test table value (2.02), at the 5% significance level. Because the null hypothesis indicates that there is no substantial difference between the groups, it is hence accepted.

H03: There is no significant difference between profit after tax to net equity ratio of ICICI Life and SBI Life.

Table 4 shows that the indicator profit after tax to equity ratio test's derived t-value is 0.0016. At the 5% significance level, the computed t-value is less than the two-tailed t-test table value (2.02). The null hypothesis is accepted because it suggests that there is no significant difference between the groups.

Summary and Conclusions

From the analysis of the test results, it is clear that there is no significant difference in the capital adequacy and earnings and profitability performance of ICICI Life and SBI Life. In all the three indicators selected for study, ICICI Life and SBI Life have performed equally well. Though in case of mean ratios, HDFC Life seems to perform better than ICICI Life for all three indicators whereas when we talk about Coefficient of Variation, ICICI Life for first indicator, HDFC Life for third indicator and have performed better than the other. For the second indicator, both companies have performed equally better. The applied t-test proves that there is no significant difference for the capital adequacy and earnings and profitability performance between the two companies.

References

1. Gazali, A. K., Aina, M., Bustaram, I. Amar, S. S., Rusdiyanto, H. T., & Panjilaksana, S. D. D. (2020). *The Effect of Financial Performance on Stock Prices: A Case Study of Indonesian. Journal of Talent Development and Excellence, 12(1), 4007-4016.*
2. Adhikari, K., & Ghosh, A. (2018). *Financial Performance of Private Sector Insurance Companies in India: A Comparative Study. EPRA International Journal of Economic and Business Reveiw , 6 (2), 60-62.*
3. Anoop Kumar Singh & Sumbul Fatima (2017). *Performance appraisal of ICICI Prudential Life insurance company limited using the caramel model. The Indian Journal of Commerce*, *70*(2), 85-91.
4. Ansari, V. A., & Fola, W. (2014). *Financial soundness and performance of life insurance companies in India. International Journal of Research, 1*(8), 224-253.
5. Charumathi, B. (2012). *On the determinants of profitability of Indian life insurers – An empirical*

study. London, U.K.: World Congress on Engineering.
6. Kalpana, N. C., & Paramasivan, C. (2015). *A Comparative Study of Public & Private Life Insurance Companies in India. International Journal of Multidisciplinary Research Review, 1*(7), 15-18.
7. Kumari T.H. (2013). *Performance Evaluation of Indian Life Insurance Industry in Post Liberalization. International journal of social sciences Arts and Humanities, 1*(1), 7-14.
8. Nikolina Smajla, (n.d.) (2014). *Measuring financial soundness of insurance companies by using CARAMELS model–case of Croatia. Interdisciplinary Management Research, 10,* 600-609.
9. Yadav, R. K., & Mohania, S. (2016). *Impact of F.D.I. on Life Insurance Sector in India. World Scientific News,(47), 2nd ser., 190- 201. Retrieved from http://www.worldscientificnews.com/wpcontent/uploads/2015/10/WSN-472-2016-190-201.pdf*
10. Insurance Regulatory and Development Authority of India. Retrieved from https:// *www.irdai.gov.in*
11. ICICI Prudential Life Insurance. Retrieved from *www.iciciprulife.com*
12. SBI Life Insurance. Retrieved from *www.sbilife.co.in*

Appendix 1

(Rs In crores)

Year	Net Premium		Equity	
	ICICI Life	SBI Life	ICICI Life	SBI Life
2017-18	26810.68	25160.07	1435.50	1000.00
2018-19	30578.28	32890.35	1435.78	1000.00
2019-20	32878.95	40324.01	1435.86	1000.00
2020-21	34973.37	49768.28	1435.97	1000.00
2021-22	36321.27	54432.00	1437.30	1000.00

(Rs In crores)

Year	Investment income		Net Premium	
	ICICI Life	SBI Life	ICICI Life	SBI Life
2017-18	5232.51	6464.11	26810.68	25160.07
2018-19	5668.98	7695.78	30578.28	32890.35
2019-20	6524.98	9384.66	32878.95	40324.01
2020-21	7204.54	10265.94	34973.37	49768.28
2021-22	8387.46	11774.48	36321.27	54432.00

(Rs In crores)

Year	Profit after tax		Equity	
	ICICI Life	SBI Life	ICICI Life	SBI Life
2017-18	1619.83	1150.39	1435.50	1000.00
2018-19	1140.65	1326.80	1435.78	1000.00
2019-20	1068.75	1422.18	1435.86	1000.00
2020-21	960.16	1455.85	1435.97	1000.00
2021-22	754.13	1505.99	1437.30	1000.00