Universal Journal of Accounting and Finance 12(2): 25-33, 2024 http://www.hrpub.org
DOI: 10.13189/ujaf.2024.120201

The Growth and Profitability of Life Insurance Industry in India – A Comparative Analysis between Public and Private Sector Companies

Shahid Husain*, Hamad Alhumoudi, Abdullah A. Alakkas

Department of Accountancy, College of Administrative and Financial Sciences, Saudi Electronic University, Saudi Arabia

Received January 20, 2024; Revised March 13, 2024; Accepted April 22, 2024

Cite This Paper in the Following Citation Styles

(a): *[1] Shahid Husain, Hamad Alhumoudi, Abdullah A. Alakkas , "The Growth and Profitability of Life Insurance Industry in India – A Comparative Analysis between Public and Private Sector Companies," Universal Journal of Accounting and Finance, Vol. 12, No. 2, pp. 25 - 33, 2024. DOI: 10.13189/ujaf.2024.120201.*

(b): *Shahid Husain, Hamad Alhumoudi, Abdullah A. Alakkas (2024). The Growth and Profitability of Life Insurance Industry in India – A Comparative Analysis between Public and Private Sector Companies. Universal Journal of Accounting and Finance, 12(2), 25 - 33. DOI: 10.13189/ujaf.2024.120201.*

Abstract Life Insurers are operating in the public and private sectors in India. A substantial number of policyholders have invested their income in these companies. A company with a proper investment policy and profitability along with the safety of the funds will grow and sustain in the long run. This study aims to help prospective policyholders in choosing a growing life insurer to ensure the safety of their premium money and increased bonus at the time of maturity/claim. Moreover, the present study may provide useful tips for the newly added private sector companies in the industry. The current study reflects on Private Sector Life Insurers to learn from the consistent and smooth growth in profitability of the Public Sector and search for solutions. This paper also compares the investment profitability and profit analysis of the private and public sector insurance companies located in India. Profitability was measured using investment yield and income as two variables. Data collected from life insurance companies operating in India from 2010-11 to 2020-21 was compared. The secondary data was obtained from the companies' annual reports for analysis and comparison. Data was analyzed by using T-Test and significance was determined at 5% confidence. Equal and unequal variances were determined by using the F-Test. The results showed growth in the amount, income, and yield of investment of the Public and Private sectors, but the two sectors did not significantly differ in their investment. By observing the pattern of growth and consistency of public sector, private sector life insurance companies can improve themselves. The study particularly belongs to India but the results and findings can be used by other life insurance companies operating in different countries as well.

Keywords Life Insurance, Public Sector, Private Sector, India, Investment Growth, Investment Profitability

1. Introduction

It is well known that establishing and developing an insurance sector in a country leads to establishing a causal relationship with the country's economic growth [1]. Hence, to understand the economic growth of a nation, the growth of insurance companies must be looked upon. Experiencing significant growth at the rate of 32-34% per year, the Indian insurance industry became the 5th largest industry in the emerging global market of insurance [2]. The credit for such an advancement goes to the revolutionary structural changes that took place in the Indian life insurance sector in the year 2000. The changes helped the sector to become more organized, smooth, and competitive in the international market. The dominance of the public sector life insurance (PuSLI) companies started diminishing with more and more introduction of private

sector life insurance (PvSLI) companies, which has made significant structural changes in the industry [3]. Regulatory authorities have ensured that financial liabilities and performances of life insurance companies must be fair and healthy since they were considered investment custodians of individuals [4]. The companies who have raised funds during a certain period must explore different avenues to invest. The funds raised in a limited duration determine the nature of the investment, hence, non-life insurers reserve short-term insurance for short-term investment to maintain liquidity. However, life insurance companies can invest their funds for sufficiently longer periods because their insurance reserves are for longer durations. However, the unconscious use of insurance reserves by insurance companies may cause a lack of funds to cover insurance claims [5]. It is, therefore, to safeguard the returns, safety, and liquidity, these companies must prudently invest the funds [6]. Policy formulation and investment administration are distinct phenomena, but a strong interrelationship exists and was observed by most life insurance companies, consequently, investment administration is considered responsible for policy formulation [7].

2. Review of Literature

While using an increased number of offices, renewed policies, underwritten premiums, and individual and group death claims as parameters, Nagalaxmi and Mathiraj [8] studied the growth and performance of life insurance sectors from 2013 to 2018. Nagalaxmi and Mathiraj [8] reported Compound Annual Growth Rate (CAGR) of the Premium underwritten by Life Insurance Corporation (LIC) to be 0.0676 as against 0.1269 for the PvSLI companies. Verma and Bala [9] presented a research paper on emerging horizons in business management in India at a national conference on the growth of insurance companies during India's pre- and post-liberalization. The new policies issued, premium underwritten, insurance penetration and insurance density were used by them as variables. The study was divided into two periods: pre-liberalization (1988-89 to 1999-2000) and post-liberalization (2000-01 to 2011-2012). The Annual Growth Rate (AGR) and CAGR of the two periods were compared and the hypothesis was tested at 5% confidence. The authors found a significant difference between the CAGR in terms of total premium underwritten from one period to the other. Devanand and Prasad [10] used number of offices, commission expense ratio and operating expenses ratio in addition to the number of policies and amount of premium underwritten as variables to measure the performance of insurance companies. They concluded that many private players entered the insurance market to promote their sales, but public sector insurance companies showed preponderance leading the market as an emerging leader. Parida and Acharya [11] suggested a panel data model to find factors determining the efficiency-driven profitability of Indian insurance companies. They found firm size, leverage, GDP, and inflation as significant profitable determinants. On the other hand, they cited underwriting risks, market structure, and efficiency as insignificant determinants of profitability. While studying the impact of several determinants of Investment by the LIC (India) over 14 years (2011 to 2014), Nikita [12] found that underwritten premiums and claims positively impacted the investment of LIC (India). Adam [13] reported a positive correlation between the investment earnings of life insurance firms and their organizational structures in New Zealand, which corroborated with the company size, predominance, leverage, and underwriting risks involved. According to them, LIC companies holding proportionately more financial assets have higher investment yields than those having low investment yields. Similarly, Chen and Hamwi [14] found reinsurance companies in the USA to have higher mean values of yield on investment than other primary insurance companies. Over five years (2016 to 2020), Husain [15] made comparisons of the beneficial position of Indian PuSLI & PvSLI companies. In his comparative study, the ratio of premiums underwritten by private companies was different from the public sector companies. While making a comparative analysis of public and private companies in India, Kumar and Singh [16] found significant differences between premium income, paid benefits, market share, and new individual policies. According to them, the differences remained the same for PuSLI & PvSLI companies. As reported by Basu and Aithal [17], the performance of the private insurance players was unsatisfactory concerning earnings and financial health for ten years (2010 to 2020).

Based on the above literature review the following hypotheses were framed: We hypothesize that the Compound Annual Growth Rate (CAGR) of Investment of Public Sector Life Insurance Companies was statistically indifferent from PvSLI in India. We also set our hypothesis to insignificant differences between the CAGR of Investment Income of PuSLI & PvSLI companies in India. Additionally, we also hypothesized that no significant differences between the CAGR of Investment Yield of PuSLI & PvSLI companies occur in India. The LIC started working in 1956 as a Public Sector Life Insurance Company but the entry of the PvSLI companies became possible only after the recommendation of the Malhotra Committee in the year 2000. In India, the gross investment made by the insurance industry was ₹ 44 trillion during the 2021 financial year as compared to ₹ 39 trillion during 2020 [18].

2.1. Purpose of the Study

Investment funds of life insurance companies constitute a substantial amount; therefore, the growth and profitability of these funds cannot be ignored. It is evident from the literature review that many studies about the

profitability of life insurance companies in India and overseas determined the effects of premium underwritten and claims settlement. Few researches were made on the profitability of investment in the insurance sector, but none has compared the growth pattern of investment yield of the two sectors. Therefore, it is imperative to analyze industrial growth in terms of the profitability of investment. Additionally, problems can be identified and resolved as these questions are further investigated. Based on the literature review three hypotheses have been framed. 1. Growth in Investment Funds of Public Sector and Private Sector Companies did not differ significantly over the last decade (2011-2021). 2. Growth in investment income of PuSLI and PvSLI companies was not significantly different. 3. Growth in investment yield of PuSLI and PvSLI companies did not differ significantly. The objectives of the present study were to analyze the investment growth and profitability position of the PuSLI & PvSLI companies in India over ten years (2011-2021) about investment.

3. Materials and Methods

3.1. Scope and Sample of the Study

The present study was focused on PuSLI & PvSLI companies operating in India until the end of March 31, 2021, when 24 life insurance companies were operating; one was in the public sector, whereas 23 companies were designated as private. The sample size was constituted of twenty-four life insurance companies, operating in India from their inception until March 31, 2021. However, a sample of all the companies for a period of 10 years (2011-2021) was considered for the present research.

3.2. Data Collection and Statistical Tools

The data was secondary and collected from the published annual reports of IRDA and LIC of India. If the Data was unavailable in the Annual Reports, then it was obtained from the Handbook of Indian Insurance Statistics published by the IRDA of India. Statistical analysis of the data was made by determining the range (minimum and maximum), mean, and standard deviations. The hypotheses were tested by determining T values and the significance of differences/ similarities was made at 5% confidence. For accurate application of the T-Test, equal and unequal variances were determined and F – Test was applied.

3.3. Variables and Their Measurements

3.3.1. Annual Growth Rate (AGR)

The AGR is an increased or decreased value of a variable over the previous year. The AGR is defined as follows. Annual Growth Rate (%) = [Current Year's Value / Previous Years' Value] X 100

3.3.2. Compound Annual Growth Rate (CAGR)

The CAGR is the average growth rate of a variable over a specific time that is greater than one year. The following mathematical formula was used to accurately calculate and determine returns of individual assets/investments that fluctuate in value over a period [19].

$$CAGR = (VE /VB)^{1/t} -1 \quad (1)$$

[VE = Value at the End; VB = Value at the Beginning; t = Time in Years]

3.3.3. Investment Yield

The investment yield is expressed as a percentage and defined as the income of investment returns over time such as interest received on holding a security. Investment Yield (%) = [Investment Income /Total Investment] X 100.

4. Results and Discussion

Table 1 shows the yearly growth of investment by both the sectors in terms of AGR and CAGR. To know whether the variance is equal or unequal, the F-Test was applied before the T-Test to test the hypotheses. Table 2 shows that the value of F (5.857996315) is greater than the Critical Value of F (3.178893104). Therefore, an unequal variance may be assumed.

Table 3 shows t Stat (-1.960563472) less than the t Critical Value of two tails (2.17881283). The calculated P value is 0.073560055 ($P > 0.05$). It is, therefore, due to the insignificant difference between CAGR of Investment of PuSLI companies and PvSLI companies in India the hypothesis was accepted at 5% confidence level.

Table 1. Investment by Life Insurance Companies in India

						(₹ in Crores)
Year	LIC (Public Sector)			Private Sector		
	Investment	AGR (%)	CAGR	Investment	AGR (%)	CAGR
2010-11	1148589	***	***	281528	***	***
2011-12	1269070	10.49	0.1049	312188	10.89	0.1089
2012-13	1402991	10.55	0.1052	341902	9.52	0.1020
2013-14	1574296	12.21	0.1108	383169	12.07	0.1082
2014-15	1786312	13.37	0.1167	461210	20.37	0.1313
2015-16	2009119	12.47	0.1183	492949	6.88	0.1186
2016-17	2275277	13.25	0.1207	578917	17.44	0.1277
2017-18	2526923	11.06	0.1192	662137	14.37	0.1300
2018-19	2760658	9.25	0.1159	772485	16.67	0.1345
2019-20	3070852	11.24	0.1155	819422	6.08	0.1260
2020-21	3397832	10.65	0.1146	1082142	32.06	0.1441
Mean	2207333	11.45	0.1142	590652.1	14.64	0.1231
SD	724220.84	1.33	0.0055	245170.75	7.66	0.0134
MIN	1269070	9.25	0.1049	312188	6.08	0.1020
MAX	3397832	13.37	0.1207	1082142	32.06	0.1441

Table 2. F-Test Two-Sample for Variances

	Private Sector	*Public Sector (LIC)*
Mean	0.123131019	0.11417449
Variance	0.000178266	3.04313E-05
Observations	10	10
df	9	9
F	5.857996315	
P(F<=f) one-tail	0.007349054	
F Critical one-tail	3.178893104	

Table 3. T-Test Two-Sample Assuming Unequal Variance

	Public Sector (LIC)	*Private Sector*
Mean	0.11417449	0.123131019
Variance	3.04313E-05	0.000178266
Observations	10	10
Hypothesized Mean Difference	0	
df	12	
t Stat	-1.960563472	
P(T<=t) one-tail	0.036780028	
t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.073560055	
t Critical two-tail	2.17881283	

Table 4 shows the average AGR of investment income of Life Insurance Corporation of India at 14.35 % as compared to PvSLI companies (640.58%). A huge difference between the average AGR of the public sector (LIC) and the PvSLI companies exists due to an extraordinary increase (6111.30%) in the AGR of investment income during the year 2020-21. However, the mean of the Compound AGR of LIC was higher (0.1476) as compared to PvSLI companies (0.0986) in India over ten years (2012-2021). The CAGR of Public Sector Life Insurance Company (LIC) was relatively constant as the standard deviation of the CAGR of LIC for the said period was ±0.0093, whereas it was higher (±0.6695) in the case of PvSLI companies. Moreover, negative annual growths of 26.31% and 105.07% in the investment income of PvSLI companies were also observed in the years 2015-16 and 2019-20 respectively.

To know the variance whether it is equal or unequal, F-Test was applied before applying T-Test to test the hypotheses. Table 5 shows that the value of F (5167.145326) is greater than the Critical Value of F (3.178893104). Therefore, an unequal variance may be assumed.

Table 4. Investment Income by Life Insurance Companies in India

(₹ in Crore)						
	LIC (Public Sector)			Private Sector		
Year	Investment Income	AGR (%)	CAGR	Investment Income	AGR (%)	CAGR
2010-11	78797	***	***	8113	***	***
2011-12	91547	16.18	0.1618	11132	37.21	0.3721
2012-13	105318	15.04	0.1561	14655	31.64	0.3440
2013-14	118131	12.16	0.1445	19219	31.14	0.3331
2014-15	135516	14.72	0.1452	22064	14.8	0.2842
2015-16	158205	16.74	0.1496	16259	-26.31	0.1492
2016-17	192478	21.66	0.1605	69184	325.51	0.4293
2017-18	206070	7.06	0.1472	55754	-24.08	0.3170
2018-19	223642	8.52	0.1393	61158	9.69	0.2872
2019-20	236850	5.90	0.1301	-3105	-105.07	-1.8988
2020-21	297397	25.56	0.1420	186651	6111.30	0.3683
Mean	176515.4	14.35	0.1476	45297.1	640.58	0.0986
SD	62702.06	5.93	0.0093	52368.34	1826.65	0.6695
MIN	78797	5.9	0.1301	-3105	-105.07	-1.8988
MAX	297397	25.56	0.1618	186651	6111.30	0.4293

Table 5. F Test Two Sample for Variances

	Private Sector	Public Sector
Mean	0.098564575	0.147628544
Variance	0.497994623	9.63771E-05
Observations	10	10
df	9	9
F	5167.145326	
P(F<=f) one-tail	1.29054E-15	
F Critical one-tail	3.178893104	
F > F Critical (Therefore, Unequal Variance)		

Table 6 shows t Stat (0.219840816) less than t Critical two-tail value (2.262157163) and P Value (0.415450262), which is greater than 0.05. It was concluded that hypothesis 2 is valid and statistically acceptable. There was no significant difference between the CAGR of Investment Income of PuSLI and PvSLI companies in India over ten years (2011-2021).

Table 7 shows that the mean CAGR of Life Insurance Corporation of India is 0.0293 as compared to PvSLI companies (0.0219) in India. The average AGR of LIC of India during the period 2011-12 to 2020-21 was 1.916 whereas it was 490.75 in the case of private life insurers. The CAGR of LIC of India was constantly decreasing from 0.0510 in 2011-12 to 0.0256 in 2014-15; however, it rose to 0.0356 in the year 2016-17 but again started declining and reached the lowest to 0.0131 in 2019-20. The PvSLI companies have also shown a declining trend in CAGR from 0.2396 in 2011-12 to 0.0270 in the year 2015-16 and reached a negative (1.7961) in 2019-20. Both the public and private sectors showed a maximum investment yield in the year 2016-17. It was 8.46% for LIC of India and 263.22% for PvSLI companies. The standard Deviation of the Investment Yield of Public Sector Companies was ±0.39 whereas it was ±5.02 in the case of PvSLI companies. It means a higher variation in the investment yield of PvSLI companies. Moreover, it can be seen from the table that the gap between the minimum and the maximum of SD is very high. The minimum Standard Deviation was (±0.37) and the maximum of the same was ±17.24 in the case of PvSLI companies. The investment Yield of Public Sector Companies did not fluctuate much over the study period. Moreover, the difference between the minimum (±7.21) and the maximum (±8.46) of SD is 1.25 only in the case of Public Sector Companies.

Table 6. T-Test Two-Sample Assuming Unequal Variances

	Public Sector	*Private Sector*
Mean	0.147628544	0.098564575
Variance	9.63771E-05	0.497994623
Observations	10	10
Hypothesized Mean Difference	0	
df	9	
t Stat	0.219840816	
P(T<=t) one-tail	0.415450262	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.830900524	
t Critical two-tail	2.262157163	

Table 7. Investment Yield by Life Insurance Companies in India

	Public Sector (LIC)			Private Sector		
Year	Investment Yield (%)	AGR (%)	CAGR	Investment Yield (%)	AGR (%)	CAGR
2010-11	6.86	***	***	2.88	***	***
2011-12	7.21	5.10	0.0510	3.57	23.95	0.2396
2012-13	7.50	4.02	0.0456	4.21	17.92	0.2091
2013-14	7.50	0.00	0.0302	5.01	19	0.2027
2014-15	7.59	1.20	0.0256	4.78	-4.59	0.1350
2015-16	7.87	3.82	0.0279	3.29	-31.17	0.0270
2016-17	8.46	7.49	0.0356	11.95	263.22	0.2676
2017-18	8.15	-3.66	0.0249	8.42	-29.53	0.1656
2018-19	8.10	-0.61	0.0210	7.91	-6.05	0.1346
2019-20	7.71	-4.81	0.0131	-0.37	-104.68	-1.7961
2020-21	8.22	6.61	0.0183	17.24	4759.46	0.1960
Mean	7.831	1.916	0.0293	6.60	490.75	-0.0219
SD	0.39	4.19	0.0119	5.02	1502.87	0.6270
MIN	7.21	-4.81	0.0131	-0.37	-104.68	-1.7961
MAX	8.46	7.49	0.0510	17.24	4759.46	0.2676

To apply the correct T-Test, it is essential to know the variance, whether there is an equal variance or unequal variance, hence F-Test was used. Table 8 shows that calculated value of F is 2791.550266 which is greater than the tabulated value of F (3.178893104). It is, therefore, concluded that there is an unequal variance. Hence, the T-Test should be used with an unequal variance.

Table 8. F-Test Two-Sample for Variances

	Private Sector	Public Sector
Mean	-0.021896395	0.029304039
Variance	0.393108753	0.000140821
Observations	10	10
df	9	9
F	2791.550266	
P(F<=f) one-tail	2.05859E-14	
F Critical one-tail	3.178893104	

Table 9 shows that t Stat (0.258190058) is less than t Critical two-tail value (2.262157163) and P Value (0.80206749) is greater than 0.05. It is therefore, hypothesis 3 may be accepted. CAGR of the Investment Yield of PvSLI companies and that of PuSLI companies did not differ significantly.

Table 9. T-Test: Two-Sample Assuming Unequal Variance

	Public Sector	Private Sector
Mean	0.029304039	-0.02189639
Variance	0.000140821	0.393108753
Observations	10	10
Hypothesized Mean Difference	0	
df	9	
t Stat	0.258190058	
P(T<=t) one-tail	0.401033745	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	0.80206749	
t Critical two-tail	2.262157163	

5. Conclusions

Life Insurance companies undertake the responsibility of compensating the monetary loss of policyholders in return for a sum of money received from them. Money paid by policyholders for such protection is called insurance premiums. Premiums paid by many policyholders will surely form a huge sum of money deposited with the insurers. Policyholders should be vigilant to see whether the money collected by these life insurers is properly invested in profitable and safe projects or not. Before the year 2000, there was only one life insurance company in India, and that too in the public sector. However, after the privatization of the insurance sector in India, many private insurers came onto the scene. Life Insurance was nationalized in the year 1956 to provide the safety of public funds but it was again privatized in 2000. The primary objective of the public sector life insurance company (LIC) was therefore to ensure the safety of funds. It is, therefore, necessary to see the safety of funds after the advent of private sector companies in the field. A policyholder must see the growth of these companies and compare the performance of both the sectors. A very strong parameter for growth is considered the profitability of investment. This paper, therefore, has analyzed and compared the growth and profitability of investment of life insurance funds of the two sectors to judge their long-term sustainability. A policyholder can rely much upon those insurers who have performed comparatively better in these parameters than others.

For the study, growth in investment, growth in income from investment, and growth in investment yield of the companies of the two sectors were compared. Annual Growth of Investment by LIC of India over the study period was without much fluctuation because the AGR was minimum (9.25%) in 2018-19 and maximum (13.37%) in 2014-15. However, a high fluctuation in this growth can be observed in the case of PvSLI companies. The minimum AGR of the PvSLI companies was 6.08% in 2019-20 and the maximum was 32.06% in 2020-21. The LIC of India has shown smooth growth in its investment against private sector life insurers over a decade (2011-2021).

Our hypothesis was valid and proven since there was no significant difference in the growth of investments made by the PuSLI and PvSLI companies. The LIC has never suffered a loss in its investment income during the study period, but PvSLI companies faced losses in their investment income in 2019-20. The annual growth of the Investment Income of private life insurers showed a greater fluctuation as compared to PuSLI Companies. A high fluctuation in the AGR of investment by PvSLI companies can be determined based on the SD which was ±7.6 (Table 1) as compared to ±1.33 of the Public Sector Companies. It is concluded that AGR in investment by PuSLI was almost constant. The AGR in the investment income of PvSLI companies also showed tremendous fluctuation year after year. The least annual growth of such income was (-105.07%), whereas the highest was 6111.3% of PvSLI companies.

The Public Sector Life Insurance Company shows smooth growth in the investment income as the SD was ±5.93 only. Individual figures for both the sectors show the differences in terms of Growth in Investment and Investment Income but they could not be proved statistically. The PvSLI companies must take negative growth in the investment income in the year 2019-20 seriously and they must try to find out the real causes of

decline. A part of the profit earned by the life insurers is distributed to the policyholders as a bonus, therefore, the policyholders are interested in knowing the profitability of investment of these companies. Consequently, profitability ensures growth and stability in the market. Life Insurance companies should carefully invest their funds to generate profit and it is also important at the same time not to lose the safety of their investments. It is also suggested that PvSLI should invest in less volatile securities to avoid higher risk of safety of funds and ensure the smooth and consistent growth in investment yield. The study particularly pertains to the companies operating in India but the results and suggestions can be helpful for the life insurance companies operating in other countries as well. This research paper has taken the Investment Amount, Investment Income, and Investment Yield as the variables to study the growth and profitability of Investment. Other dimensions such as the security and safety of investment funds can be considered for further research. Moreover, liquidity and profitability of investment can also be compared between the two sectors for further study.

Appendix

Names of 24 Life Insurance Companies operating in India by the end of March 31, 2021.

1. Life Insurance Corporation of India (Public Sector)
2. Max Life Insurance Co. Ltd
3. HDFC Life Insurance Company Co. Ltd
4. ICICI Prudential Life Insurance Co. Ltd
5. Kotak Mahindra Life Insurance Co. Ltd
6. Aditya Birla Sunlife Insurance Co. Ltd
7. TATA AIA Life Insurance Co. Ltd
8. SBI Life Insurance Co. Ltd
9. Bajaj Allianz Life Insurance Co. Ltd
10. MetLife India Insurance Co. Ltd
11. Reliance Nippon Life Insurance Co. Ltd
12. Avia Life Insurance Company India Co. Ltd.
13. Sahara India Life Insurance Co. Ltd
14. Shriram Life Insurance Co. Ltd
15. Bharti AXA Life Insurance Co. Ltd
16. Future Generali India Life Insurance Co. Ltd
17. Ageas Federal Life Insurance Co. Ltd
18. Canara HSBC Life Insurance Co. Ltd
19. Aegon Life Insurance Co. Ltd
20. Pramerica Life Insurance Co. Ltd
21. Star Union Dai-Ichi Life Insurance Co. Ltd
22. IndiaFirst Life Insurance Co. Ltd
23. Edelweiss Tokio Life Insurance Co. Ltd
24. Excide Life Insurance Co. Ltd

Source: IRDA

Acknowledgements

We are grateful to Professor Anwar L. Bilgrami, a retired Professor, at Rutgers University, New Brunswick, NJ (08901) for his valuable suggestions, editing, and setting of the language of the manuscript, which helped to shape the manuscript in its present form.

REFERENCES

[1] Feyen E., Lester R., Rocha R., "What Drives the Development of the Insurance Sector? An Empirical Analysis based on a Panel of Developed and Developing Countries," Policy Research Working Paper, World Bank Group, https://doi.org/10.1596/1813-9450-5572

[2] Indian Brand Equity Foundation, "Indian Insurance Industry Overview and Market Development Analysis," http://www.Ibef.org.

[3] Banerjee S., Savitha B., "Competition reduces profitability: the case of the Indian life microinsurance industry" Geneva Papers on Risk Insurance - Issues and Practices, vol. 46, pp. 383–398, 2021. DOI: 10.1057/s41288-020-00203-5

[4] Charumathi B., "On the Determinants of Profitability of Indian Life Insurers – An Empirical Study", Proceedings of the World Congress on Engineering, (London, U.K.), July 4-6, 2012. URL: https://www.iaeng.org/publication/WCE2012/WCE2012_pp505-510.pdf

[5] Gavrilko T., Melnychuk O., "Features of Investment Activities of Insurance Companies in Ukraine," Market Infrastructure, URL: https://ouci.dntb.gov.ua/en/works/4kxyaE6l/

[6] Dadhich M., "Introduction to Investment and Insurance Industry," in An Empirical Study of Investment Pattern of Indian Insurance Companies: A Case Study of Public and Private Insurance Companies, 1st Ed, BR, 2022, pp. 1-146.

[7] McCahan, D., "Investment of Life Insurance Funds," in University of Pennsylvania Press, 1st ed., JSTOR, 1953, pp. 1-320.

[8] Nagalaxmi N., Mathiraj S. P., "Growth and Performance of Public and Private Life Insurance Sector," Journal of Emerging Technology and Innovative Research, vol. 6, no. 4, pp. 245-254, 2019. URL: http://www.jetir.org/papers/JETIR1904E42.pdf

[9] Verma A., Bala R., "Growth on Life Insurance Sector in Pre and Post Liberalization in India," Conference on Emerging Horizons in Business Management, (Haryana, India), 2015. URL: https://www.researchgate.net/publication/290438725

[10] Devanand H. N., Prasad R. T., "Performance of Life Insurance Business in the Post Crisis Period," Shanlax International Journal of Economics, vol. 3, no. 4, pp. 5-16, 2019. URL: http://www.shanlaxjournals.in/journals/index.php/economics/article/view/1485

[11] Parida, T.K., Acharya, D., "Life Insurance in India: Efficiency and Profitability," in the Life Insurance Industry in India, PM, 2017, pp. 73-79. DOI: 10.1007/978-981-10-2233-3_3

[12] Nikita S., "Determinants of Insurance Investment: A Case Study of Life Insurance Corporation of India," ELK Asia

Pacific Journal of Finance and Risk Management, vol. 6, no. 3, pp. 73-86, 2015. DOI: 10.16962/EAPJFRM/6_3_6.

[13] Adams M., "Investment Earnings and the Characteristics of Life Insurance Firms: New Zealand Evidence," Australian Journal of Management, vol. 21, no. 1, pp. 41 – 55, 1996. DOI: 10.1177/031289629602100106

[14] Chen B. Y., Hamwi I. S., "Performance Analyses of U.S. Property-Liability Reinsurance Companies," Journal of Insurance Issues, vol. 23, no. 2, pp. 140–152, 2000. http://www.jstor.org/stable/41946186.

[15] Husain S., "Comparative Analysis of Profitability Position between Public and Private Sector Life Insurance Companies in India," Journal of Business and Economic Policy, vol. 9, no. 4, pp. 10-17, 2022. DOI: 10.30845/jbep.v9n4p2

[16] Kumar R., Singh S., "A Comparative Analysis of Private Insurance Companies and Life Insurance Corporation of India," Sachetas, vol. 2, no. 1, pp. 27-37, 2023, DOI: 10.55955/210004.

[17] Basu T., Aithal P. S., "Financial Growth Assessment of Private Life Insurers in India: An Aggregative Study," Revista Review Index Journal of Multidisciplinary, vol. 2, no. 3, pp. 06-13, 2022, DOI: 10.31305/rrijm2022.v02.n03.002.

[18] Rathore M., "Life Insurance Investment India FY 2017-2022, by Sector" https://www.statista.com.

[19] Wayman R., "Compound Annual Growth Rate: What You Should Know," Online available from http://investopedia.com