A Comparative Study of the Premium Collection of Public and Private Life Insurance Companies in India - An Application of the MANN-WHITTNEY U-TEST

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Abstract

As part of the change process, the Insurance Regulatory Development Authority statute was passed in parliament in December 1999. As a result, the government deregulated the sector by forming IRDAI and enabling private actors to participate. The Life Insurance Corporation regulates India's life insurance sector. However, since the year 2000, the situation has changed dramatically. When the Insurance Regulatory Development Authority Act was passed in 1999, private enterprises began to integrate the life insurance market. . Secondary data came from IRDA's annual reports, as well as a multitude of journals, research articles, and websites. The study will be conducted over a five-year period, from 2015-16 to 2019-20. It was decided to use the Mann-Whitney U-Test. According to the findings, life insurance companies must offer innovative products to meet a wide range of consumer needs. Both businesses and the general public would benefit from a healthy amount of competition in an industry.

Keywords: Life Insurance, Life Insurance Companies, Fresh Life Insurance Premium, New Insurance Policies, Total Insurance Premium, Insurance Density

Introduction

There are 57 businesses in India's insurance industry. In the country, there are 24 life insurance firms and 34 non-life insurance businesses. The Life Insurance Corporation is the sole publicly traded life insurance company in the country (LIC).

The Indian life insurance business has undergone substantial changes over the years as a result of the increased number of insurers, products, novel instruments, pricing, and regulations. In the early years of deregulation, four private insurers entered the hitherto untapped market, with 12 by the end of 2001–02.Following them, there was a steady increase in the number of new insurers joining the market until 2007–08. Then followed an influx of international players, each with a strong business motivation and desire, entering the Indian market. In the Indian life insurance industry on March 31, 2021, there were a total of 24 life insurers (including LIC).

As per India Brand Equity Foundation, India's insurance industry is anticipated to be valued US$ 280 billion by 2020. The life insurance sector is expected to increase at a CAGR of 5.3 percent between 2019 and 2023. India had a 4.2 percent insurance penetration rate in FY21, with life insurance accounting for 3.2 percent and non-life insurance accounting for 1%. India was rated 78th in the world in terms of insurance density in FY21. Private sector companies increased their market share in general and health insurance from 47.97 percent in FY19 to 48.03 percent in FY20. In the life insurance sector, private companies had a market share of 33.78 percent in premium underwritten services in FY20.

Review of Literature

(Shreedevi, D., & Manimegalai, D ,2013) viewed that Public-sector companies have fared well in comparison, due to aggressive pricing and business retention. Sinha (2005) in his article "the tremendous increase that has recently occurred as a result of improved economic fundamentals In terms of growth, penetration, density, and other insurance variables, India remains an underdeveloped insurance industry with significant development potential. Although there is opportunity for insurance expansion into rural parts of the country, progress has been limited." Kannan (2010) viewed that India, with its large population and vast unexplored land, offers enormous potential for expansion in the insurance market. The insurance industry is currently increasing at a rate of 15-20percentage points per year. It contributes roughly 7% of both the country's GDP, when combined with financial services. . This suggests that India's insurance market has tremendous growth potential. Sharma and Chowhan (2013) attempted to compare the performance of the public and private life insurance businesses in India in their research article "A Comparative Analysis of Public & Private Life Insurance." According to studies, the rivalry is becoming more intense as more private competitors enter the market. Every corporation tries to apply fresh ideas and creative product qualities to attract clients in order to appease them. In Udaipur, Motwani and Anchliaa (2013) conducted a study to compare the behaviour of public and private insurance providers. The study focused on a descriptive research method in which questionnaires were distributed from clients of several insurers using a close ended questions survey. Consumers' demographics has an influence on the decision between public and private insurance providers, according to the report's results.

Objectives of the Study

The purpose of this research is to compare the performance of public and private life insurance companies across a number of factors from 2015-16 to 2019-20 .

Hypotheses

For the purpose of this study, the following null hypotheses are formed:

H01 : There is no significant difference in the growth rate of fresh business premium between public and private life insurance companies for period of 2015-16 to 2019-20.

H02 : There is no significant difference in the growth of number of new policies issued among public and private life insurance companies for period of 2015-16 to 2019-20.

H03 : There is no significant difference in the growth rate of total life insurance premium among public and private life insurance companies for period of 2015-16 to 2019-20.

Research Methodology

Type of Research: Descriptive as well as exploratory research.

Secondary data was gathered from IRDA's yearly reports, as well as numerous journals, research articles, and websites.

Duration of study from 2015-16 to 2019-20.

Statitical Tools: It was decided to utilize the Mann-Whitney U-Test. The Mann- Whitney U Test is a non-parametric test. This test determines whether two independent samples from the same population are identical.

Company Analysis

As part of the transition process, the Insurance Regulatory Development Authority statute was passed in parliament in December 1999. As a result, the government deregulated the sector by forming IRDA and enabling private actors to participate. The Life Insurance Corporation regulates India's life insurance sector. However, since the year 2000, the situation has changed dramatically. When the Insurance Regulatory Development Authority Act was passed in 1999, private firms began to integrate the life insurance market. According to IRDAI figures, India's life insurance market received weighted new business premiums of INR792 billion in the first eight months of the current financial year, up 64.7 percent over the previous year. Premiums for new businesses are weighted at 100% of the typical premium upgrade. a 10 percent reduction in the cost of a single premium The state-owned LIC is driving the industry's rapid growth, with a 115.3 percent increase in weighted new business premium collections. This boosted LIC's weighted new business premium market share from 48.0 percent in the same period last year to 62.8 percent in April-November 2019. LIC increased faster than the private insurance business in both the individual and group categories. Private life insurers, on the other hand, saw a 17.9% increase in weighted new business premium collections year over year. Private insurers' market share declined to 37.2 percent from 52.0 percent the previous year, owing to LIC's far quicker growth. Private enterprises increased by 15.9% and 29.7%, respectively, for individual and group businesses.

Analysis of Data

A . Growth in Fresh Life Insurance Premium

Table 1 shows details of Fresh Life Insurance Premium of Public and Private Insurance Companies operating in India. In public sector there is a mixed trend in the fresh business premium during the years from 2015-16 to 2019-20. The rate of annual growth was highest in FY 2016-17 (27.27%) and it was lowest in FY 2018-19 (5.69) . In private sector The rate of annual growth was highest in FY 2016- 17 (23.84%) and it was lowest in FY 2019-20 (10.74%).

Table 1: Details of Fresh Life Insurance Premium of LIC and Private Insurance Companies

FY	Public Sector		Private Sector	
	Amount (in Rs. Crore)	AGR (%)	Amount (in Rs. Crore)	AGR (%)
2015-2016	97891.51	(24.69)	40874.48	(17.38)
2016-2017	124583.31	(27.27)	50619.37	(23.84)
2017-2018	134671.69	(8.10)	59482.21	(17.51)
2018-2019	1,42,335.96	(5.69)	72,667.08	(11.45)
2019-2020	1,78,276.24	(25.25)	80,986.14	(10.74)

Source: https://www.irdai.gov.in/

To ascertain the significance of difference in growth rate of fresh life insurance premium of public and private insurance companies operating in India in period of 2015-16 to 2019-20, Mann-Whitney Utest is employed and results are shown in table No. 2

To be significant, obtained value of U must be equal to or less than critical value of U at that significance level.

Table 2: Mann-Whitney U-test for Fresh Life Insurance Premium of Public and Private Insurance Companies

FY	Public Sector		Private Sector	
	AGR (%)	Rank	AGR (%)	Rank
2015-2016	(24.69)	1	(17.38)	3
2016-2017	(27.27)	2	(23.84)	4
2017-2018	(8.10)	8	(17.51)	5
2018-2019	(5.69)	9	(11.45)	6
2019-2020	(25.25)	10	(10.74)	7
Sum of Rank order		30		25
No. of Data		5		5
U-value	**10**			

B. GROWTH IN NEW LIFE INSURANCE POLICIES ISSUED

The critical value of U for a two-tailed test at the 0.05 significance level is 2 and for a two- tailed test at the 0.01 significance level is 0. For N1=5 and N2=5, the critical value of U is 2 for a two-tailed test at the 0.05 significance level and 0 for a two-tailed test at the 0.01 significance level.

Table 3: Details of New Life Insurance Policies issued by Public And Private Insurance Companies (FY 2015- 16 to FY 2019-20)

FY	Public Sector		Private Sector	
	NO (in Lakh)	**AGR (%)**	**NO (**in Lakh)	**AGR (%)**
2015-2016	205.47	(1.86)	61.92	(7.92)
2016-2017	201.32	(-2.02)	63.24	(2.13)
2017-2018	213.38	(5.99)	68.59	(8.47)
2018-2019	214.04	(0.31)	72.44	(5.72)
2019-2020	218.96	(2.30)	69.50	(-4.05)

Source: https://www.irdai.gov.in/

For the accounting periods 2015-16 to 2019-20, Table 3 shows the annual data related with new life insurance policies issued. It shows that the rate of growth of new life insurance policies issued by the government has a mixed pattern, as the yearly growth in the number of new policies issued by the government was highest in FY 2017-18 (5.99 percent) and lowest in FY 2016-17. (-2.02 percent). Private insurance companies have had inconsistent growth, with annual rates ranging from 8.47 percent in FY 2017-18 to -4.05 percent in FY 2018-19. (FY 2019-20).

Table 4: Mann-Whitney U-test for New Life Insurance Policies issued by LIC and Private Insurance

FY	Public Sector		Private Sector	
	AGR (%)	Rank	AGR (%)	Rank
2015-2016	(1.86)	2	(7.92)	1
2016-2017	(-2.02)	3	(2.13)	5
2017-2018	(5.99)	4	(8.47)	7
2018-2019	(0.31)	6	(5.72)	9
2019-2020	(2.30)	8	(-4.05)	10
Sum of Rank order		**23**		**32**
No. of Data		5		5
U Value	8			

At a significance level of 0.05, the value of U = 8 is greater than the crucial value of U (2). As a result, at p=0.05, the difference in the annual growth rate of new insurance policies issued by public and private insurance companies is not significant.

C. GROWTH IN TOTAL LIFE INSURANCE PREMIUM

Table 5 shows that the LIC of India's total life insurance premium was Rs. 266444.21 crore in 2015-16 and has risen to Rs. 379389.60 crore in 2019-20. In 2015-16, private insurance firms' total life insurance premium was Rs. 100499.02 crore, with a mixed pattern in annual growth rate. By the end of FY 2019-20, the total life insurance premium of private insurance companies had risen to Rs. 193520.59 crore.

Table 5: Details of Total Life Insurance Premium of Public and Private Insurance Companies

FY	PUBLIC SECTOR		PRIVATE SECTOR	
	Amount (in Rs. Crore)	**AGR (%)**	**Amount** (in Rs. Crore)	**AGR (%)**
2015-2016	266444.21	(11.17)	100499.02	(13.64)
2016-2017	300487.36	(12.78)	117989.26	(17.40)
2017-2018	318223.2	(5.90)	140586.24	(19.15)
2018-2019	3,37,505.07	(6.06)	1,70,626.96	(21.37)
2019-2020	3,79,389.60	(12.41)	1,93,520.59	(10.75)

Source: https://www.irdai.gov.in/

The Mann-Whitney U-test is used to determine the significance of the difference in total life insurance premium growth rates for public and private insurance companies:

FY	Public Sector		Private Sector	
	AGR		**AGR**	
2015-2016	(11.17)	1	(13.64)	3
2016-2017	(12.78)	2	(17.40)	7
2017-2018	(5.90)	4	(19.15)	8
2018-2019	(6.06)	5	(21.37)	9
2019-2020	(12.41)	6	(10.75)	10
Sum of Rank order		**18**		**37**
No. of Data		5		5
U-value	3			

The findings show that the value of U = 3 is bigger than the critical value of U (3) at a significance level of 0.05, meaning that the difference in total insurance premium growth rates between public and private insurance businesses is non-significant at p=0.05.

Result and Discussion

H01: At a significance level of 0.05, the value of U for the growth rate of new life insurance premium (10) is greater than the critical value of U (2) for N1=10 and N2=10. As a result, at p=0.05, the difference in the growth rate of new insurance premiums between public and private insurers is not significant. It demonstrates the null hypothesis H01: "For the period 2015-16 to 2019-20, there is no substantial difference in the growth rate of fresh life insurance premium between public and private life insurance companies."

H02: At a significance level of 0.05, the value of U (10) is greater than the crucial value of U

(2) for N1=5 and N2=5. As a result, at p=0.05, the difference between the annual growth rates of new insurance policies issued by public and private insurance companies is not significant. The null hypothesis H02 is shown. "From 2015-16 to 2019-20, there is no notable variation in the number of new policies issued by public and private life insurance companies."

H03 : In the case of N1=5 and N2=5, The result demonstrates that at a significance level of 0.05, the value of U (3) is greater than the critical value of U (2), implying that the difference in total insurance premium growth rates of public and private insurance companies is not significant at p=0.05. It proves the null hypothesis H03: "For the period 2015-16 to 2019-20, there is no significant difference in the growth rate of total life insurance premium among public and private life insurance businesses."

Conclusions

Public-sector companies conduct well in comparison, owing to competitive pricing and business acquisition. The Indian life insurance system is based on a mixed economic framework, with the government holding a monopoly position in the life insurance industry. Private businesses play a critical role in increasing the life insurance industry's efficiency and consumer appeal. They've been startled as well, and they face heavy competition from the LIC. In the coming years, LIC will maintain its leadership position. To address the different needs of the general public, businesses must offer unique products. A healthy amount of rivalry in an industry would be beneficial to both businesses and the general population.

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Web Resources

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