

“Underwriting Profit/Loss and Premium Earned: A Study on Health Insurance Sector in India”

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Abstract: During the year 2021-2022 general health insurance company collected nearly gross income of 73,052 crores as health insurance premium excluding personal accidents and travel insurance. The overall growths of 25% were seen in the year 2022. (Source: IRDA annual report). This paper aims to provide the detail understanding of the growth in health insurance sector in India and tries to find out significant relationship between premium earned and underwriting profit or loss. This data is purely a secondary source of information collected and time period considered for study is 14 years. Regression analysis has been done to come at final conclusion. Findings of the study is null hypothesis is rejected and alternative hypothesis is accepted. There is significant relationship between dependent and independent variable. There is a surprising outcome increase in premium collection leads to increase in claims, commission and management expenses and also increase in underwriting loss.

Keywords: Health Insurance, Premium earned, Underwriting Profit or Loss, Claims, Commission, Management Expenses

Introduction:

Health insurance sector in India is an emerging insurance sector followed by life and automobile sector insurance. Today health insurance is a part of general insurance where different segments are established like fire, marine, motor, health and other out of which health insurance is a second largest contributor to general insurance with 33% (2021) market share about 13% (2021) growth rate. Due to uncertainty situation which is right now prevailing in human life and health has cost most damaged to the human era. Rise in middle class, Covid 19, Poor health condition, high hospitalization rate, cardiac arrest, and higher cost at specialized treatment and increase in awareness among people about some important drivers for the growth of health insurance market in India.

Health insurance was set up in the year 1999. Due to lack of awareness among people the health insurance programme was at sick condition. Late in the year 2001 it started to pick up and continued to grow. A complete 14 years of data has been collected to show the growth in health insurance sector in India. During the year 2021-

2022 general health insurance company collected nearly gross income of 73,052 crores as health insurance premium excluding personal accidents and travel insurance. The overall growths of 25% were seen in the year 2022. (Source: IRDA annual report).

Concept of Health Insurance: Health insurance is a legal contract that obligates an insurance company to cover all or part of a person's medical expenses in exchange for a premium. More precisely, health insurance often covers the insured's out-of-pocket expenses for prescribed medications, medical procedures, and sometimes dental care. Health insurance may pay directly to a health care provider or reimburse the insured for expenses related to an illness or injury.

To attract excellent workers, they are often offered as part of employer benefits packages. Premiums are sometimes partially funded by the company and sometimes deducted from employees' salaries with some exceptions for a corporation worker, the cost of health insurance premiums is deductible by its payer and the benefits received are tax-deductible.

Health Insurance Company has been classified into three business classes namely

- a) Government sponsored business covers 59% of lives.
- b) Group business covers 31% lives
- c) Individual business covers 10% lives.

Health Insurance collects sector wise share premium were private sector health insurance with 45%, Public sector health insurance with 28% and Standalone health insurance with 27%. (Source: Handbook of Indian Insurance Statistics and annual report).

Need of Health Insurance in India:

- 1. Stressful life
- 2. Lack of Fitness
- 3. Unhealthy eating habits
- 4. Fast food culture and processed food consumption
- 5. Lack of financial planning
- 6. Expensive medical care

Scope of Health Insurance Policy: The policy scope includes all the data related to the health policy. You can know exactly what is included and excluded in the policy by reading the policy scope. The policy also includes information about additional terms and conditions related to pre and post treatment expenses, non-monetary claims etc.

The three important reasons should be known to every policy buyer:

- 1. The scope of health insurance coverage includes comprehensive information on the contents and limitations of the policy. For example, while many policies do not, some policies specify specific criteria. Knowing whether a particular insurance is right for you is not difficult if you understand the features and exclusions properly.
- 2. Many insurance additionally include additional features like pregnancy coverage, hospital cash, room rent waivers and other things. Additionally, some insurance include traveler critical illness coverage, accidental injury coverage, and more. These additions are also covered under the policy.
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The importance of Health Insurance:

1. The policy provides financial support the policy holder during medical crisis
2. Health Insurance policy helps in tax benefit under sec 80 D
3. Health Insurance policy acts as investment and savings a person can be free from stress to face any medical expenses which arise out of uncertainty.
4. Buying health insurance policies allows you to deal with medical inflation better and simpler without straining your money.
5. Complementary and alternative medical coverage.

Review of Literature:

Devadasan et al. (2004): Community health insurance was examined by authors. A key transitional phase in the development of an equitable health financing system in Europe and Japan. The study concludes that India's community health insurance programs have important lessons for policy makers in other countries.

Ramani and Mavalankar (2006) examine the Indian health care system and show how closely they are linked; social and economic growth is difficult to achieve without good health. While India's economic growth has undoubtedly accelerated over the past 10 years, the country's health system is now at a crossroads, the research found. The research concludes by defining the roles and functions of various stakeholders in the development of a successful and efficient health system.

Jayaprakash (2007) investigated the barriers that prevent people from purchasing health insurance policies in the country and the strategies to reduce claims ratio in the industry.

Kumar (2009) in his study looked at how insurance pays for medical treatment in India. Insurance has been found to play an important role in resource mobilization, risk protection and health insurance services. But for this to happen, the Indian government needs to implement sweeping reforms in the industry.

Thomas K. and R. SakthiVel (2011) Analysed the development of business models in private health insurance in India and identified the lack of standardized language and procedures in diagnosis, treatment and billing of common diseases as the industry's worst shortcoming. Often, different hospitals across the country treat the same medical disease using different terminology, using different treatment methods and charging different fees.

Sanjay Dutta (2012) described the inception and steady development of health insurance in India and expressed optimism that with the help of many stakeholders, significant progress could be made soon. He predicts that a combination of demographic and economic factors will lead to an increase in healthcare in India, fueling the sector's expansion.

Indrani Gupta and Mayur Trivedi (2012) Analysed the early development and current status of HIV insurance in India. They emphasized that programs like Yashaswini Arogyasree provide coverage to all HIV-positive people irrespective of their economic status. They emphasized that all existing plans should be comprehensively examined to describe the experience of providing coverage for HIV-related diseases.

Aubu (2014). A comparative study on marketing of health insurance schemes by public and private organizations was conducted by Aubu (2014). A study found that due to the new methods and technologies used by the private sector, their services received a better response than those offered by the public sector.

Savitha (2014) investigated the causes of low partial health insurance membership in Karnataka. The main reasons for this fall are lack of money, confusion about planning and problems in the family. However, the biggest problem facing the micro insurance industry is tailoring the plan to the consumer's needs.

Yadav and Sudhakar (2017) investigated personal characteristics influencing health insurance policy purchases in India. It has been shown that purchase decisions of people with health insurance policies are significantly influenced by attributes such as knowledge, tax benefits, financial stability and risk coverage.

Thomas (2017) investigated consumer insights regarding health insurance in India. It has been found that customers consider many factors while choosing health insurance such as availability of strong hospital network, insurance policy coverage, company with wide range of products and support staff.

Shah (2017) examines the health insurance market in India after its liberalization. A strong correlation was found between premiums collected and claims paid and demographic factors influenced the policy retention status of the respondents.

Benny and Gupta (2017) examined the advantages and disadvantages of health insurance in India. This digCTS enables market participants to increase their business and competitive level in the market. However, many structural issues such as increasing claims and changing consumer needs force organizations to develop new products to satisfy their customers.

In their 2018 study, Chatterjee et al. examines the Indian health insurance market. The objective of this research is to investigate the current state of the Indian health insurance market. It is recognized that India is focusing more on providing short-term care to its population and should move towards providing long-term care.

Nir (2019) made a comparison between the satisfaction levels of public insurance applicants from the public and private sectors. A majority of respondents were found to have reimbursement type claims through third party administrators. The public sector expressed more satisfaction with the resolution of the case than the private sector.

Chauhan (2019) studied the medical underwriting and classification practices used by the health insurance industry. It has been found that various aspects of the insured including their lifestyle, work, health condition and habits should be taken into account during health insurance. Many in-depth researches have been done on health insurance in India and abroad. However, no research has been conducted on the performance of the health insurance industry based on underwriting profit or loss.

Madan Mohan Dutta (2020) tries to examine about health insurance sector growth with special reference to underwriting profit or loss. Finding of his study was when premium increases profit/loss also increases, when premium decreases profit or loss also decreases.

Research Gap: After a thorough evaluation of the literature, little research has been conducted on how the health insurance industry operates when calculating underwriting profit or loss. Despite the rapid increase in earned premiums, the industry did not profit from underwriting. This is because higher premiums are offset by higher claims, commissions and other costs. This has led to an increase in underwriting losses over time for various insurance companies operating in the public and private sectors. A key feature of the poor performance of this sector is yet to be investigated in India.

Objective of the Study:

- To study on financial performance on health insurance sector in India with special reference to underwriting profit or loss.

Hypotheses:

H_0 : There is no relationship between insurance premium and underwriting profit or loss.

H_1 : There is a relationship between insurance premium and underwriting profit or loss.

Problem Statement: Every time the premium increases, the profit is assumed to remain the same. This proves that income from premiums does indeed have an impact on earnings. As a result, if the premium keeps increasing, the resulting profit will also increase.

The objective of the study is whether the health insurance industry is increasing in underwriting profits or incurring underwriting losses.

Applying regression analysis to the relationship between premium generated and underwriting profit or loss solves the problem statement. The null hypothesis, which states that there is no relationship between insurance premium and underwriting loss or underwriting profit by sector, is accepted if this pattern of reliability is not found. If the

underwriting profit increases with the premium received, the model forms a normal distribution and the alternative hypothesis can be accepted. However, what is happening in the industry is that higher premiums are fueling rising underwriting losses. Therefore, premium underwriting has a negative impact on profitability, which is a source of surprise development and industry problems.

The net premium earned minus the settled claim plus the commission paid and handling expenses is equal to the underwriting profit or loss.

In the insurance sector, underwriting profit refers to premiums earned after claims are settled, commissions are paid and overhead costs are covered. It does not include investment returns on insurance premiums owned by the company. It is the profit earned by the insurance company during normal business operations.

Underwriting Profit or loss: Net Premium earned – Claims + commission and Management expenses.(Madan Mohan Dutta (2020).

Research Design:

- **Data collection:** Secondary Source of Data collection from IRDA website: www.irda.gov.in , Annual Report & Hand book on Indian Insurance Statistics 2021- 2022.
- **Time period:** 14 years of data has been collected from 2007 -2008 to 2020 – 2021
- **Statistical Tool:**Proper tool has been used to measure the performance of health insurance sector, the information so collected tabulated and analyzed based on objective stated.

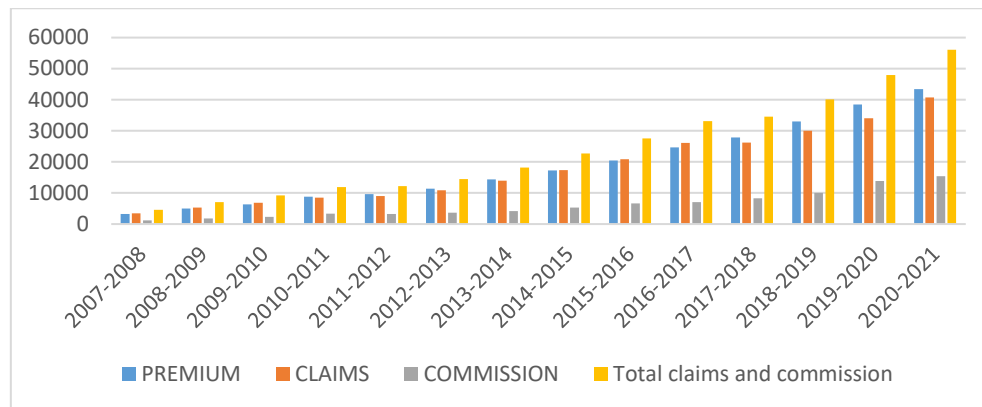
Table: 1 Data showing Health Insurance earned, claims and Management expenses

Year	Premium Earned (Rs. Crs)	Claims (Rs. Crs)	Commission& Management Expenses (Rs. Crs)	Total claims and Commission (Rs. Crs)
2007-2008	3224.27	3422.43	1139	4561.43
2008-2009	5017.47	5256.19	1849	7105.19
2009-2010	6351.82	6857.31	2362	9219.31
2010-2011	8783.61	8546.18	3350	11896.18
2011-2012	9660.52	9013.42	3239	12252.42
2012-2013	11413.76	10834.29	3630	14464.29
2013-2014	14373.7	14007.22	4167	18174.22
2014-2015	17260.69	17405.79	5343	22748.79
2015-2016	20456.57	20900.18	6629	27529.18
2016-2017	24709.75	26088.59	7059	33147.59
2017-2018	27875.24	26247.22	8329	34576.22
2018-2019	33010.89	30027.26	10049	40076.26
2019-2020	38514.75	34057.92	13893	47950.92
2020-2021	43408.25	40718.47	15,409.50	56127.97

(Source: Hand book on Indian Insurance Statistics - www.irda.gov.in)

Above table shows Health Insurance Premium earned increases from Rs.3224.27 Crores in 2007 – 2008 to Rs. 43408.25 Crores in 2020 – 2021, But Claims and Commission have growth from Rs. 4561 Crores to Rs. 56127.97 Crores during same period. The premium earned is lesser than the total claims and commission. The premium paid, the commission paid and the administrative expenses incurred in obtaining the insurance contract are the result of the insured risks claimed and presented above. Both costs are critical for insurance companies to attract new clients, given the fierce competition in this market since deregulation in 2000.

Figure:1 Chart Showing Health Insurance Premium Earned, Claims, Commission and Management expenses paid



It shows the relationship between the number of claims and commission expenses incurred by insurers and the amount of health insurance premiums collected in the health insurance industry from the years 2007-2008 to 2020-2021.

A bar graph comparing premiums generated with claims and operating costs shows that claims and operating costs exceed premiums earned in all years of research, resulting in losses. Claims, commissions and management expenses play important roles in the sale of insurance policies, generating premium income for insurance companies. However, effective management of claims, commissions and administrative costs can help improve the performance of this industry.

Table: 2 Data showing Health Insurance Sector Performance in India

Year	Premium Earned (Rs. Crs)	Claims (Rs. Crs)	Commission and Management Expenses (Rs. Crs)	Under writing profit/loss (Rs. Crs)
2007-2008	3224.27	3422.43	1139	-1337.16
2008-2009	5017.47	5256.19	1849	-2087.72
2009-2010	6351.82	6857.31	2362	-2867.49
2010-2011	8783.61	8546.18	3350	-3112.57
2011-2012	9660.52	9013.42	3239	-2591.9
2012-2013	11413.76	10834.29	3630	-3050.53
2013-2014	14373.7	14007.22	4167	-3800.52
2014-2015	17260.69	17405.79	5343	-5488.1
2015-2016	20456.57	20900.18	6629	-7072.61

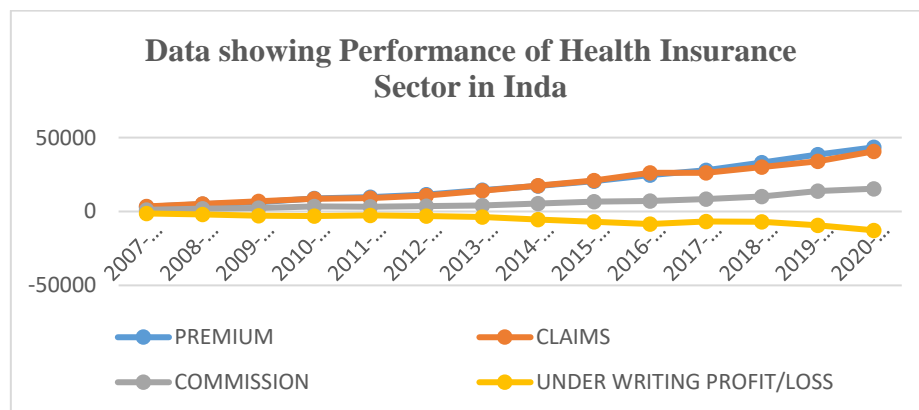
2016-2017	24709.75	26088.59	7059	-8437.84
2017-2018	27875.24	26247.22	8329	-6700.98
2018-2019	33010.89	30027.26	10049	-7065.37
2019-2020	38514.75	34057.92	13893	-9436.17
2020-2021	43408.25	40718.47	15,409.50	-12719.72

(Source: Hand book on Indian Insurance Statistics - www.irda.gov.in)

Above table highlights the performance of health insurance sector in India. The growth is from Rs. 3224.27 Crores for the financial year 2007 – 2008 to Rs. 43408.25 Crores for the financial year 2020 – 2021. From the above table it's clear that health insurance sector is making underwriting loss every year. There is no any specific trend both increase and decreasing trend can be seen.

An increase in premium collection leads to increase in claims, commission and management expenses hence a proper policy stream line is very much necessary. Underwriting principles needs to be streamlined so that proper scrutiny of each policy is carried out so that performance of this sector improves.

Figure: 2 Data showing Performance of Health Insurance Sector in India



Above Figure explains about stiff raise in premium earned over the years. The premium collected over year is increasing and claims, commission and management expenses is also increasing. Increase in revenue leads to increase in losses in these sector which is normally not seen in any other sectors.

Regression Analysis:Regression analysis has been used to derive at conclusion.

$$Y = a + bx$$

Y = Dependent variable (Underwriting profit / loss)

x = Independent variable (Health Insurance premium)

a = Intercept of slope

b = slope of the line

Table: 3 Regression Analysis

Model Summary				
Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	.957 ^a	.915	.908	1001.47186

a. Predictors: (Constant), Premium Earned

The Predictive Ability of the Model clearly explains the relationship between premium earned and loss made by the health insurance sector. R^2 is 0.915 which means 91.5% null hypothesis is rejected and alternative hypothesis is accepted. Only 8.5% variable are unexplained

Table: 4 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129419031.850	1	129419031.850	129.039	.000 ^b
	Residual	12035350.559	12	1002945.880		
	Total	141454382.410	13			

a. Dependent Variable: Underwriting Profit/ Loss, b. Predictors: (Constant) Premium Earned

p value is 0.000 which is less than 0.05 with a 95% confidence level. With this level of certainty, the null hypothesis is rejected and the alternative hypothesis is accepted. Hence, the regression equation shows that the amount of health insurance premiums earned has an effect on the losses experienced by the industry.

The result of this research is not as expected in the market. A gain or loss may result from higher income streams received in the form of insurance premiums. However, what is interesting in this case is that increase in income leads to increase in losses Therefore, higher premium income actually affects the losses rather than profitability.

Table:5 Regression Coefficient

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-799.496	486.330		-1.644	.126
	Premium Earned	-.245	.022	-.957	-11.360	.000

a. Dependent Variable: Underwriting Profit/ Loss

$$Y = a + bx$$

$$\text{Regression fit: } Y = -799.496 - 0.245x$$

Here, x is the known independent variable (Health Insurance Premium earned) on which predictions are to be based, Y is the dependent variable (Underwriting Profit or Loss) which is to be forecast, a and b are parameters, the values of which are to be established.

Conclusion: The intense competition that arose when the insurance industry started in year 2000 was the main reason behind the high commission and operating costs. Therefore, to enter the market, new firms provide more incentives to agents and intermediaries. This trend should be stopped as it indirectly affects the profitability of this sector.

By increasing the premiums of health insurance products, IRDA has taken a bold step. This will help in the expansion of the industry. India's health insurance industry should come with the help of advanced technology from foreign partners and IRDA's involvement and start making profits.

The COVID-19 pandemic presents many challenges to the health insurance sector, while also providing an opportunity for insurance companies to attract new customers.

The health insurance market has not been able to attract the young population. Therefore, age-based pricing may attract these customers. A person who is covered at age 30 and has continuous coverage for ten years pays a lower rate than someone who buys insurance at age 40.

Due to the Covid 19 pandemic in India, the cost of healthcare has increased there. Therefore, increase in premium fee should be considered to bring improvement in net profit in the industry. The claim needs to be considered immediately. This gives insurance companies the ability to limit the widespread use of unethical practices and dishonest methods of making claims.

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