International Journal of Computing and Business Research (IJCBR)
ISSN (Online) : 2229-6166
International Manuscript ID : 22296166V7I3201705
Volume 7 Issue 3 September - October 2017

Profitability Performance of Life Insurance Companies – A Study in Indian Context

Mr. Sumit Bodla
PGDM-B&FS Student , International Management Institute (IMI)
B-10, Qutab Institutional Area, New Delhi, India
E-mail: sumit.b16@imi.edu

Dr. Deepak Tandon
Professor, International Management Institute (IMI)
B-10, Qutab Institutional Area, New Delhi, India
E-mail: deepaktandon@imi.edu

Dr. B. S. Bodla
Professor and Director
Institute of Management Studies
Kurukshetra University, Kurukshetra, Haryana, India
E-mail: bsbkuk@gmail.com

Abstract

This research paper was aimed to analyse and compare the profitability performance life insurance companies in India(both Public and Private) .The authors have taken a sample of 13 private sector life insurance and one public sector firm (LICI) out of a population of 24 life insurance companies.The reference period for the study was of 10 years which ranged from 2007 to 2016. For analyzing the profitability and financial performance sevenvariables namely Net Premium, Income from Investments, Underwriting Income, return on assets, Combined Ratio, solvency ratioand Profit after tax were taken. ANOVA was used to test the significance of variance in profitability of various insurers. The study revealed that, among the private sector life insurers, the average net premium for the last 5 year was found the highest in case of ICICI prudential followed by HDFC

Standard and SBI Life whereas the lowest premium was mobilized by IDBI Federal followed, in upside, by Exide life.The CAGR of investment income was found the highest in case of ICICI Prudential (87.5%) followed by Birla Sunlife (63.79%) and Tata AIA (57.9%) during the recent 5 years i.e. 2012-16.In recent 5 years the CAGR of underwriting income has declined in case of almost every private sector company.

Key Words: Life insurance, net premium, combined ratio, underwriting income

Introduction: A well-developed insurance sector is essential for economic development as it provides long- term funds for infrastructure development at the same time strengthening the risk taking ability of the country (Charumathi, 2012). The risk absorption role of insurers promotes financial stability in the financial markets and provides a "sense of peace" to economic entities. The business world without insurance is unsustainable since risky business may not have the capacity to retain all kinds of risks in this ever changing and uncertain global economy (Ahmed et al., 2011). Life insurers are custodians and managers of substantial investments of individuals; and policyholders need to be confident that their insurer will be able to meet its promised liabilities in the event that claims are made under a policy. The insurers can meet their promises toward policy holders when they have good financial health and earning sufficient profits. Profitability of a firm can be measured by its profitability ratios. Profitability ratios can be determined on the basis of either sales or investments. These ratios consist of (i) income ratios, (ii) expense ratios and (iii) profit margin ratios in relation to sales or investments. When profit margin is expressed against sales, it is known as operating profit ratio (Khan and Jain, 2001). In life insurance business, premium is regarded as sales.

Profit does not only improve upon insurers' solvency state but it also plays an essential role in persuading policyholders and shareholders to supply funds to insurance firms. Without profits no insurer can attract outside capital to meet its set objectives in this ever changing and competitive globalized environment. Therefore, one of the objectives of management of insurance companies is to attain profit as an underlying requirement for conducting any insurance business.The profitability of insurance companies can also be appraised both at the micro, and macro levels of the economy. The micro level refers to how firm-specific factors such as size, capital, efficiency, age, and ownership structure affect profitability. The macro level refers to the influence of support-institutions and macroeconomic factors respectively. At the micro level, profit is the essential pre-requisite for the survival, growth and competitiveness of insurance firms and the cheapest source of funds (Buyinza et al., 2010).

Insurance industry is well developed in economies such as the US, Europe, Japan, and South Korea. Emerging markets are found throughout Asia, specifically in India and China, and are also in Latin America. Life insurance dominates the global insurance market, accounting for 59.7% of the markets value. The insurance market in India has witnessed dynamic changes including entry of a number of global insurers in both life and general segment. Life Insurance industry in India was ranked 9th among the 156 countries, during 2010-11.The Insurance Regulatory and Development Authority (IRDA) was constituted in 1999 as an autonomous body to regulate and develop the insurance industry. The total amount of net premium of the whole life insurance industry increased from Rs1,55,863.59 crore in 2006-07 to Rs 290979.19 crore in 2010-11.During 2011-12 and 2015-16, the position the amount of net premium improved a lot because the same rose from Rs 2,86,308.48 crore to Rs 3,65,440.10 crore in this duration.As of 2016, life insurance sector has 29 private players in comparison to only four in FY02. With 70.4 per cent share market share in FY16, LIC continues to be the market leader, followed by SBI (5.1 per cent), ICICI (4.9 per cent) and HDFC (4.1 per cent).The life insurance market grew from US$ 10.5 billion in FY02 to US$ 27.5 billion in FY16. Over FY02–FY16, life insurance premiums expanded at a CAGR of 7.5 per cent.The life insurance industry has the potential to grow 2-2.5 times by 2020 in spite of multiple challenges.

To understand whether the life insurers are maintaining fair level of profits and they show a sustainable growth of profits, there is an urgent need to conduct a researchstudy to investigate the profitability position of the life insurers. Accordingly, this study was made to analyze the profitability performance of private sector life insurance companies and compare the same with Public sector firm, i.e. Life Insurance Corporation of India.

Review of Literature:

Hussain(2010) has evaluated the growth of LIC during post privatization period from 2004-05 to 2008-09 where parameters used are premium, commission, operating expenses etc. and the analysis finds that the increase in commission expenses being lower than the increase in gross premium and other operating expenses compared to premium underwritten is on the higher side. A study performed by Modi (2011) on four non-life insurance companies in India found that the overall management and profitability of all the companies under the study period has improved substantially. . Gulati and Jain, (2011) have studied the comparative performance of all players of Indian life insurance industry relating to agency force, premium income, no. of policies etc. The study found that the entry of private players in life insurance sector has resulted in a drop of market share of LICI. According to a McKinsey report (2011), the Indian life insurance industryis the least profitable market for its shareholders among all Asian countries. However, the life insurance industry reported net profit of Rs 26.57 billion in 2010-11 as against net loss of Rs 9.89 billion in 2009-10, according to IRDA data. (www.irda.gov.in). Hifza Malik (2011) found that the profitability of Pakistan insurance companies is significantly and positively influenced by volume of capital; significantly and negatively influenced by loss ratio and leverage; and not related to age of the insurer.

Bhatt, (2012) analyzed the profitability of LIC after liberalization policy in India taking the parameters as premium, number of policies, claims settlement, assets growth etc. This study found that the quantum of business of life insurance has increased more than ten times in the span of 20 years Tiwari, et.al (2012) has studied the trend of total premium; total no. of policies, total income, market share etc. Jain, (2013) conducts a study on the performance of life insurance industry in India after 2008 world economic crisis concerning total premium, operating expense ratio, market share and the study reveals that many life insurance companies suffering losses are closed down and new companies are taking less interest in India due to economic slowdown.

Bawa and Chattha (2013), attempts to examine the financial performance of Indian life insurers on the basis of various parameters. For measuring it, various financial ratios have been calculated taking into consideration liquidity, solvency, profitability and leverage of the insurance players. Generally, performance can be estimated by measuring the profitability of firm and insurers. In order to accomplish the aim, the study determines the impact of liquidity, solvency, leverage, size and equity capital on the profitability of life insurers in India. The sample for this study includes 18 Indian life insurers (including 1 public and 17 private) and it analyses the data of 5 years from 2007-08 to 2011-12. The study uses multiple linear regression model to measure the extent to which these determinants exert impact on life insurers profitability. The results of the study reveal that profitability of life insurers is positively influenced by liquidity and size and negatively related with capital. Profitability does not show any relationship with solvency and insurance leverage.

BhushanDey and Adhikari (2014) have conducted a study with the aim to measure the profitability performance of life insurance companies after liberalization. The study finds that uncontrolled volumes of underwriting losses are being incurred by the insurers in the life insurance sector in our country. The study also finds that there has been a tendency to offset underwriting losses by investment income by the select life insurance companies in the current fluctuating market which is a very risky insurance management practices in India. As a result, life insurance companies are required to pay more attention on efficient underwriting; otherwise their sustainability in the market will be questionable. However, underwriting losses can be minimized if the insurance regulator makes proper risk management practices mandatory.

Dar and Bhat (2015), evaluated the financial performance and soundness of selected public and private life insurance companies. In this paper a set of ratios have been presented and discussed to lend a hand in the analysis of a life insurer's financial and statistical returns. Three parameters taken from CARAMEL model have been used to analyse and evaluate the financial performance and soundness.The study by Solanki (2016), aims to examine the profitability of life insurance companies. For measuring the profitability of the companies various ratios were calculated. The private sector life insurances companies should strive to increase its business by issuing more and more policies in order to retain its market share in the competitive scenario.

From the above review of literature, it is clear that majority of the earlier studies towards the analysis of profitability of life insurance companies were confined to a smaller period of three to five years only. Further these were related to premium income trends but so-far as the analysis of various profitability ratios are concerned, researchers paid less attention. The present study was aimed to fill this gap.

Objectives of the Study

This research paper was aimed to achieve the following three objectives:

- To analyse the profitability performance of private sector life insurance companies; and
- To compare the profitability performance of private sector and public sector life insurance companies.

To attain the objectives of the study, the following null hypotheses (H_0) have been tested-:

- There is no significant variance in the profitability performance of various life insurance companies; and
- There is no significant variance in the financial performance of various life insurance companies.

Sample Design and Source of Data

In this study a sample of 13 private sector life insurance has been taken out of a population of 23 life insurance companies (Exhibit-1). Also Life Insurance Corporation of India has been included in the sample so as to compare the profitability performance of private sector insurers with the public sector insurer. Thus, the sample firms represent 58.33 % (14/24) of all life insurers registered with the IRDA, the India's insurance industry regulator, as of April 2017. The basis for selection of these companies was market share in terms of net premium.The companies excluded from the sample are relatively new firms and they constitute only 2.70% of the total market share in the year 2016. The reference period for the study is of 10 years which ranges from 2007 to 2016.

Exhibit-1: Companies included in Sample

Sr.no.	Company Name	Sr. no.	Company Name
1	Aviva	8	Kotak Mahindra
2	Bajaj Allianz	9	Max Life
3	Birla Sunlife	10	PNB Metlife
4	Exide Life	11	Reliance Nippon
5	HDFC Standard	12	SBI Life
6	ICICI Prudential	13	TATA AIA
7	IDBI Federal	14	LIC

Tools of Data Analysis and Variables Selection

Ratio is a relative measure and it permits the comparison of groups of unequal size (Krishna Swami and Ranganathan, (2008). For accessing the profitability performance ratio analysis has been made. The ratios were selected based on review of literature being presented in section two of this paper. For analyzing the profitability and financial performance 6 variables were considered. These variables include Net Premium, Income from Investments, Underwriting Income, return on assets, Combined Ratio, and Profit after tax. To estimate the overall financial and profitability performance indicator, Doumpos et al, 2012 have relied on various ratios (including Return on Assets Liquid Assets/current assets, Underwriting Expenses including Commission/Net Premium Written, Incurred Losses and Loss adjustment expenses/Net Premium Earned) since there is no theoretical guidance for the selection of specific criteria.The major tools of data analysis used in this study are ratios, percentage, mean, CAGR,and ANOVA. The ratio analysis has been used as a major tool for analyzing profitability performance of the selected life insurers. To strengthen the analysis, CAGR of measures of financial performance was computed. ANOVA test was applied to test the hypothesis – “there does not exist a significant variance among the profitability performance of various life insurers”. A brief description of measures of profitability is given as under:

Net Premium: It is the premium earned by a life insurance company after deducting the reinsurance ceded. An insurance premium is the amount of money that an individual or business must pay for an insurance policy. The insurance premium is considered income by the insurance company once it is earned, and also represents a liability in that the insurer must provide coverage for claims being made against the policy.

Income from Investment: Income from investments is another important parameter of profitability performance for the life insurers. The investment income in insurance sector comes from interest, dividends, capital gains collected upon the sale of a security or other assets, and any other profit made through an investment vehicle of any kind.

Underwriting Income: Underwriting income is the difference between premiums collected on insurance policies by the insurer, and expenses incurred and claims paid out. **Profit after Tax:** Profit after tax is also a key metric that can be used to measure profitability performance of Life Insurers.

Combined Ratio: It is the sum of the loss ratio (loss and loss-adjustment ratio divided by net premiums earned), expense ratio (underwriting expenses divided by net premiums written), and policyholder dividend ratio. Generally, this ratio comprises the claims and the management expense ratios. Whereas the claims ratio measures underwriting efficiency, the expense ratio determines managerial competency. The lower the rate of these ratios, the better will be the financial health of an insurer.

Return on Assets (ROA): Return on assets is a profitability ratio which measures how far a company is profitable in relation to its total assets. ROA is a ratio of Net income before tax to Total assets. This ratio reveals for the investor how well a company uses its assets to generate income. It is an important indicator of the overall productivity of the company, and shows the percentage of profit, company earns in relative to its total resources. A negative ROA suggests that a company is not properly utilizing its capital, and may have disputed management. A company with negative ROA means it is investing a high amount of capital into its production and simultaneously receiving little income.

Results of the Study

As stated earlier various ratios have been computed for analyzing profitability position of life insurance companies in India. The results of the ratio analysis are described as follows:

Net Premium: The position of the amount of Net Premium collected by the selected private sector life insurance companies and the public sector company (LIC) is shown in table 1 for the period 2006-07 to 2015-2016. It is evident from the table that the average net premium in 5 years from 2006-07 to 2010-11 was the highest in case of LIC followed by ICICI Prudential, Bajaj Allianz and SBI life. In contrast to the above, the average of net premium for the corresponding period was seen the lowest in case of IDBI Federal Life Insurance followed, in upside, by Exide Life and PNB Metlife. The total amount of net premium of the whole life insurance industry increased from Rs1,55,863.59 crore in 2006-07 to Rs 290979.19 crore in 2010-11.During 2011-12 and 2015-16, the position the amount of net premium improved a lot because the same rose from Rs 2,86,308.48 crore to Rs 3,65,440.10 crore in this duration. The pattern of increase in net premium also holds true in case of HDFC Standard, ICICI Prudential, IDBI Federal, Kotak Mahindra, Max Life, SBI Life and LIC. However in case of the remaining firms the net premium indicated a downward trend. Among the private sector life insurers the average net premium for the last 5 year was found the highest in case of ICICI prudential (□ 14,757.38 crore) followed by HDFC Standard (□ 12,865.23 crore) and SBI Life (□ 12,513.10 crore) whereas the lowest premium was mobilized by IDBI Federal (□ 927.68 crore) followed in upside by Exide life (□ 1852.93 crore).

ANOVA was applied to examine whether the variance in the mean of Net Premium of various insurers is statistically significant. The results in this regard as presented in Table 1A indicates that the Net Premium of various firms varies significantly as the p-value is less than 0.05 (F=189.991 and df=13,126).

Table 1 B further indicates that CAGR of net premium of the whole life insurance industry was quite higher (13.30%) during 2007-2011 as compared to that of the period 2012-2016 (5.0%). The CAGR of net premium is worked out at 8.89 % during last 10 year. The highest CAGR in net premium was found in case of Max Lfe (19.92 %) followed, very closely, by HDFC Standard (19.08%), PNB MetLife (18.77%) and SBI Life (18.28%). IDBI Federal Life has a CAGR of 20.42% during 2007-2011, 10.98% during 2012-16 and 14.47% during 2007-2016.CAGR of net premium gives a worrisome position for Aviva, Tata AIA, Bajaj Allianz, Birla Sunlife and Reliance Nippon as the growth rate was found negative during 2012-16 for these companies.

Market share is an important parameter for judging the standing of a particular firm vis-à-vis the other competitors in the industry. Accordingly the position of market share in net premium of various private sector life insurance companies and the public sector company has been computed and presented in Table 1 C. The table indicates that the market share of the leader i.e. LIC has been above 70% in each of the last 10 years except 2010-11 where the same was 69.89%. Among the private sector life insurers ICICI Prudential has enjoyed the highest market share in each of the last 10 years. Its share has been in the range of 3.92% to 6.92% in this duration. It is noteworthy that market share, in net premium, of HDFC Standard has been rising year after year during the study period and the same rose to 4.52% in 2015-16 from 1.81% in 2006-07. SBI Life has taken the 3rd position in terms of market share during the last 3 years. The market share of IDBI Federal Life has increased from 0.14% in 2008-09 to 0.34% in 2015-16.

Income from Investment: The position of life insurance companies regarding income from investment is shown in Table 2. The table indicates that income from investments has been increasing during the entire period from 2006-07 to 2010-11 in case of most of the companiesexcept for the year 2008-09 when the life insurers incurred huge losses from their investments. The downtrend in 2008-09 may be attributed to the financial crisis that took place in US and world over in this year. During 2007-11, the CAGR in income from investment was found the highest in case of Reliance Nippon (100.2%) followed by IDBI Federal (74.5%) and Bajaj Allianz (68.1%) whereas the rate was found the lowest in case of LIC (16.0%). In contrast to the above, the CAGR was found the highest in case of ICICI Prudential (87.5%) followed by Birla Sunlife (63.79%) and Tata AIA (57.9%) during the recent 5 years i.e. 2012-16. In the corresponding duration the CAGR of Income from Investment of the market leader, LIC stood at 13.2 % only. However in absolute terms the private players stand nowhere as compared to LIC in so far as income from investment is concerned because the same has increased to Rs. 1,57,028.7 crore in 2016 from Rs.45,698.2 crore during 2006-07.

ANOVA was also applied to examine whether the variance between the incomes from investment of various insurers is statistically significant. The results in this regard as presented in Table 2A indicates that the income from investment of various firms varies significantly as the p-value is less than 0.05 (f=47.227 and df=13,126).

Underwriting Income: The position of various life insurers under study, during the last 10 year, is presented in Table 3. The table reveals that the underwriting income of all the 14 firms in aggregate has increased from Rs 74,419.11 crore in 2006-07 to Rs. 1,22,070.78 crore in 2008-09 but the same declined significantly in the next 4 years continuously and came down to Rs. 41,669.52 crore during 2012-13. However, the trend of underwriting income turned into positive direction in the recent 3 years and rose to the level of as high as Rs. 1,24,946.54 crore during 2015-16. The above pattern of ups and downs in underwriting income holds good in case of most of the firms except HDFC Standard where the underwriting income has registered an upward trend in all the years of study. To be more specific, the CAGR of underwriting income is found the highest in case of IDBI Federal (95.92%) followed with a wide difference by PNB Metlife (59.19%) and Reliance Nippon (44.26%) during 2007-11. Surprisingly the CAGR of underwriting income was merely 1.23% in the aforesaid duration in Life Insurance Corporation of India. The pattern of underwriting income for the duration 2012-16 is all-together different from that of 2007-11 because in recent 5 years the CAGR of underwriting income has declined in case of almost every private sector company. However LIC, the public sector corporation is exception to the above pattern because the underwriting income has registered an impressive CAGR (12.68%) in the recent 5 years. The CAGR of all firms is also found higher (8.79%) during 2012-16 than that of the period 2007-11 (4.95%). The above pattern implies that the CAGR of all firms has been influenced by the growth of underwriting income of LIC during 2012-16. Further, the declining trend of underwriting income may be taken as a big warning for the long term survival of some firms such as Aviva, Baja Allianz, Reliance Nippon and Tata AIA as the CAGR is negative to the tune of around 200% in these companies.

To examine whether the variance between the Underwriting Income of various insurers is statistically significant ANOVA was applied. The results in this regard as presented in Table 3(A) indicates that the Underwriting Income of various firms varies significantly as the p-value is less than 0.05 (f=124.533 and df=13,126).

Return on Assets (ROA): The comparative position of the 14 companies under reference regarding ROA may be judged from the facts given in table 4. It is obvious from this table that average ROA during 2007-11 is positive only in case of three private sector life insurance companies namely Bajaj Allianz, SBI Life and PNB Metlife. IDBI Federal has ROA -9.43% which is the second lowest after Reliance Nippon (-13.48%). The ROA for the majority firms have improved in 2010-11 as compared to the previous years. ROA has remained positive in each year in case of LIC during the last 10 years despite year on year fluctuations. The same was found highest during 2009-10 (0.90%) and the lowest during 2014-15 in case of LIC. Among the private insurers the average ROA during 2012-16 was found the highest in case of Bajaj Allianz (2.88%) followed by Max Life (2.0%) and ICICI Prudential (1.88%). Average ROA was 0.72% in case of IDBI Federal during 2012-16 which is considerably higher than that obtained during 2007-11.ANOVA was applied to examine whether the variance between the Return on Assets of various insurers is statistically significant. The results in this regard as presented in Table 4A indicates that the Return on Assets of various firms varies significantly -as the p-value is less than 0.05 (f=2.441 and df=13,112).

Profit after Tax: Profit after tax is also a key metric that can be used to measure profitability performance of Life Insurers. The position of the selected private sector life insurers and LIC is analyzed with the help of data in this regard as presented in Table 5. The table discerns that the majority of the life insurers have been incurring losses during 2007-11. However some companies including Bajaj Allianz, Kotak Mahindra, PNB Metlife and SBI Life have succeeded to earn profits in the above duration in two or more years out of 5 years. LIC, the public sector player, contrarily succeeded to earn huge profits after tax in most of the years. More specifically, the amount of Profit after tax of LIC has increased from Rs. 77,362 lakh during 2006-07 to Rs 2,51,784.8 lakh during 2015-16. The table further reveals that all the companies have earned profits in each of the last 4 years. Among the private insurers the highest amount of profit after tax was seen in case of ICICI Prudential in each of the last 7 years. The same is followed by the Bajaj Allianz, SBI Life and HDFC Standard.

To test whether the variance between the Profit after tax of various insurers is statistically significant ANOVA was applied. The results in this test as presented in Table 5A indicates that the Profit after tax of various firms varies significantly as the p-value is less than 0.05 (f=7.657 and df=13,126).

Solvency Ratio: The facts on solvency ratio of insurance companies are shown in table 6. It is obvious from the table that the solvency ratio of most of the firms has been above 2 in large majority of the years. This ratio was found above 6 in case of IDBI Federal during 2008-09, 2010-11 and 2011-12. Similarly it has been above 6 during the last 4 years in case of Bajaj Allianz. This ratio was found lower in case of HDFC Standard ,PNB Metlife, Reliance Nippon and LIC as compared to the other during 2007-11. LIC has been able to maintain its solvency ratio in a narrow range of 1.50 to 1.55 during the last 10 years. ANOVA was applied to examine whether the variance between the solvency ratios of various insurers is statistically significant. The results in this regard as presented in Table 6A indicates that the solvency ratio of various firms varies significantly -as the p-value is less than 0.05 (f=8.361 and df=13,140).In nutshell it can be concluded that both private insurers and public sector insurers are having ability to meet their debt and other obligations as they have maintained the solvency ratio at an adequately high level.

Combined Ratio: Table 7 possesses the data on combined ratio of the selected private sector and public sector life insurance companies during 2007-16. The table reveals that the combined ratio has remained below 100 in all the insurance companies up to the year 2011-12 except IDBI Federal wherein the ratio was 271 percent in 2008. The performance of most of the insurers has deteriorated in terms of combined ratio during the last 4 years because the ratio has been found above 100 in case of 8 companies out of 13 private sector life insurers. ICICI Prudential, HDFC Standard Life, Max Life, SBI Life have performed better than the rest of the private sector insurance companies because the combined ratio of these companies has been below 70 most of the time. The similar is the case with LIC where the combined ratio was found below 70 in 6 years and between 73 to 84 during 4 years , out of the study period of 10 years. On the basis of the above description about combined ratio it concludes that some private sector life insurance companies including Reliance Nippon, PNB Metlife, Tata AIA, Birla Sunlife, Bajaj Allianz and Aviva do not have any surplus to invest in their business for expansion as they are spending higher amount on claims and operating expenses than the Net Premium collected by them.

Conclusion:

The findings of this study reveal that the life insurance industry has made a remarkable growth of premium after the entry of private players. The CAGR of net premium has been worked out at 8.89 % for the last 10 year. The highest CAGR in net premium was found in case of Max Life followed, very closely, by HDFC Standard, PNB MetLife and SBI Life. IDBI Federal Life has a CAGR of 20.42% during 2007-2011, 10.98% during 2012-16 and 14.47% during 2007-2016.CAGR of net premium gives a worrisome position for Aviva, Tata AIA, Bajaj Allianz, Birla Sunlife and Reliance Nippon as the growth rate was found negative during 2012-16 for these companies.The market share of the leader i.e. LIC has been above 70% in each of the last 10 years except 2010-11 where the same was 69.89%. Among the private sector life insurers ICICI Prudential has enjoyed the highest market share in each of the last 10 years. Its share has been in the range of 3.92% to 6.92% in this duration. It is noteworthy that market share, in net premium, of HDFC Standard has been rising year after year during the study period and the same rose to 4.52% in 2015-16 from 1.81% in 2006-07.

The CAGR of investment income was found the highest in case of ICICI Prudential (87.5%) followed by Birla Sunlife (63.79%) and Tata AIA (57.9%) during the recent 5 years i.e. 2012-16. In the corresponding duration the CAGR of Income from Investment of the market leader, LIC stood at 13.2 % only.In recent 5 years the CAGR of underwriting income has declined in case of almost every private sector company. However LIC, the public sector corporation is exception to the above pattern because the underwriting income has registered an impressive CAGR (12.68%) in the recent 5 years.The declining trend of underwriting income may be taken as a big warning for the long term survival of some firms such as Aviva, Baja Allianz, Reliance Nippon and Tata AIA as the CAGR is negative to the tune of around 200% in these companies.The highest amount of profit after tax was seen in case of ICICI Prudential in each of the last 7 years which was followed by Bajaj Allianz, SBI Life and HDFC Standard.About combined ratio it concludes that some private sector life insurance companies including Reliance Nippon, PNB Metlife, Tata AIA, Birla Sunlife, Bajaj Allianz and Aviva do not have any surplus to invest in their business for expansion as they are spending higher amount on claims and operating expenses than the Net Premium collected by them.

Thus, in the light of above findings, it can be concluded that many of the life insurers in India are required to improve their underwriting income for sustainable development. Further, they need to have control on expense ratio and other outflows so as to register profits.The future researchers must explore other indicators of profitability particularly macroeconomic along with the firm specific characteristics.

References:

1) Ahmed, N., Ahmed, A., & Usman, A. (2011). Determinants of Performance: A Case of Life Insurance Sector of Pakistan. International Research Journal of Finance and Economics(61), 123-128.
2) Bawa, SumninderKaur and Chattha, Samiya (2013), "Financial Performance of Life Insurers in Indian Insurance Industry", Pacific Business Review International Volume 6, Issue 5, pp.44-52

3) Bhatt, Shilpa R (2012), "A Study of Financial Performance of Life Insurance Corporation of India", A PhD Thesis from Sourashtra University, Available at (http://etheses.saurashtrauniversity.edu/id/eprint/609), Retrieved on 09-11-2013.

4) BhushanDey, Nikhil and Adhikari, Kingshuk (2014), "Profitability of Life Insurance Companies in India An Analytical Study"http://www.icaindia.info/images/news/Profitability_of_Life_Insurance_Companies_in_India_-_An_Analytical_Study.docx

5) Buyinza, F., Francois, J. and Landesmann, M. (2010), "Determinants of Profitability of Commercial Banks in Sub Saharan Africa Countries", Department of Economics Johanssen Keppler University, Linz Austria.

6) Charumati, B (2012) "On the Determinants of Profitability of Indian Life Insurers-An Empirical Study", Proceedings of the World Congress on Engineering, Vol. 1, London U.K., Available at (www.iaeng.org/publication/wec2012), Retrieved on 17-09-2013.

7) Dar, Showket Ahmad and Bhat, Javaid Ahmad (2015), "A Comparative Evaluation of Financial Performance and Soundness of Selected Public and Private Life Insurers in India" Pacific Business Review International Volume 7, Issue 10, pp. 55-64.

8) Doumpos,Michael, Gaganis, Chrysovalantis and Pasiouras, Fotios (2012),''Estimating and Explaining the Financial Performance of Property and Liabilities Insurance: A Two-Stage Analysis'',The Business and Economics Research Journal,Volume 5, Issue , pp.155-170.

9) Gulati, Neelam C and Jain, C M (2011), 'Comparative Analysis of the Performance of all the Players of the Indian Life Insurance Industry", VSRD International Journal of Business and Management Research, Vol. I (8), pp.561-569, Available at (www.vsrdjournals.com), Retrieved on 10-09-2013.

10) Hifza Malik, (2011), Determinants Of Insurance Companies Profitability: An Analysis Of Insurance Sector Of Pakistan, Academic Research International, 1(3),315-321. Available: http://www.savap.org.pk/journals/ARInt./Vol.1(3)/2011(1.3-32).pdf.

11) Hussain, Shahid (2010),"Growth of LIC of India During Post Privatization Period", SMS Varanasi, Management Insight, Vol. VI, No. 2, Dec, pp.59-64, Available at (www.inflibnet.ac.in/ojs), Retrieved on 28-09-2013.

12) Jain, Yogesh (2013),"Economic Reforms and World Economic Crisis: Changing Indian Life Insurance Market Place", IOSR Journal of Business and Management, Volume 8, issue-I, Jan-Feb, pp.106-115, Available at (www.10srjournal.org), Retrieved on 01-01-2014

13) Khan, M Y and Jain P K (2001), "Management Accounting", Tata McGraw-Hill Publishing Company Limited, New Delhi, p 4.17

14) McKinsey Report (2011), Available: http://www.Thehindu businessline.com/industry-and-economy/banking/article2692453.ece.

15) Modi, Manisha S (2011) "A Comparative Performance Study of General Insurance Public Sector Companies of India", A PhD Thesis from Saurashtra University ,Available at (http://etheses.sausashtrauniversity.edu), Retrieved on 07-08-2013.

16) Solanki, Rajiben (2016), "An Analytical Study Of Profitability Of Life Insurance Companies In India: A Study Of Selected Private Sector Insurance Companies", Volume 5, Issue 6, pp.8-12

17) Tiwari,Anshuja&Yadav, Babia (2012), "Analytical Study of Indian Life Insurance Industry in Post Liberalization", International Journal of Social Science Tomorrow, Vol.1 No. 2, April, pp.1-10, Available at (www.ijsst.com), Retrieved on 28-12-2013.

Table 1: Net Premium of Life Insurance Companies in India (in Rs Crore)

Company	2007	2008	2009	2010	2011	Avg(2007-11)
Aviva	1140.06	1885.68	1977.07	2361.50	2326.78	1938.22
Bajaj Allianz	5335.98	9712.04	10601.07	11391.36	9575.18	9323.13
Birla Sunlife	1735.16	3223.07	4516.63	5425.37	5594.56	4098.96
Exide Life	704.02	1153.28	1434.70	1638.56	1705.29	1327.17
HDFC Stand.	2822.62	4817.62	5518.37	6955.63	8954.72	5813.79
ICICI Prud	7896.82	13536.77	15318.19	16475.83	17816.98	14208.92
IDBI Federal	0.00	11.90	318.54	569.02	806.49	341.19
Kotak Mahind	951.34	1662.71	2307.74	2849.85	2940.96	2142.52
Max Life	1485.42	2692.55	3819.03	4800.86	5736.21	3706.81
PNB Metlife	488.32	1148.49	1978.27	2506.21	2468.23	1717.91
Reliance Nipp.	1000.52	3213.26	4915.34	6588.34	6547.86	4453.06
SBI Life	2923.44	5611.20	7202.39	10080.48	12875.52	7738.61
TATA AIA	1355.95	2032.79	2747.50	3493.78	3972.87	2720.58
LIC	127781.17	149702.03	157187.1	185982.39	203354.0	164801.35
others	242.78	620.04	1517.40	3825.99	6303.53	2085.11
Total Industry	155863.59	201023.44	221359.3	264945.17	290979.2	226834.15

Company	2012	2013	2014	2015	2016	Avg(2012-16)
Aviva	2389.69	2097.87	1829.55	1742.38	1440.18	1899.93
Bajaj Allianz	7433.62	6835.06	5776.03	5948.03	5831.72	6364.89
Birla Sunlife	5747.77	5051.75	4644.85	5068.37	5411.74	5184.89
Exide Life	1673.04	1736.72	1824.47	2014.21	2016.24	1852.93
HDFC Standard	10149.87	11258.63	11976.43	14762.45	16178.78	12865.23
ICICI Pruden	13927.88	13417.24	12282.65	15160.45	18998.70	14757.38
IDBI Federal	731.16	798.00	817.72	1060.71	1230.82	927.68
Kotak Mahin	2892.92	2723.99	2650.94	2980.79	3913.29	3032.39
Max Life	6320.84	6570.30	7211.81	8105.15	9138.93	7469.40
PNB Metlife	2625.32	2375.04	2175.26	2365.54	2727.23	2453.68
Reliance Nipp.	5470.25	4015.32	4256.75	4591.67	4370.64	4540.92
SBI Life	13080.84	10382.11	10657.11	12780.00	15665.45	12513.10
TATA AIA	3618.25	2746.04	2311.79	2106.45	2435.80	2643.67
LIC	202804.15	208589.72	236798.1	239482.77	266225.4	230780.02
Others	286308.48	286166.53	313212.6	326925.20	365440.1	315610.59
All firms	286308.48	286166.53	313212.6	326925.20	365440.1	315610.59

Table 1A: ANOVA of Net Premium

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	346333040400.000	13	26641003110.000	189.991	.000
Within Groups	17668020910.000	126	140222388.200		
Total	364001061300.000	139			

Table 1B: CAGR of NET Premium of Life Insurance Companies (percentage)

Company	2007-2011	2012-2016	2007-16
Aviva	15.34	-9.63	2.36
Bajaj Allianz	12.41	-4.74	0.89
Birla Sunlife	26.38	-1.20	12.05
Exide Life	19.36	3.80	11.10
HDFC Standard	25.97	9.77	19.08
ICICI Prudential	17.67	6.41	9.18
IDBI Federal	20.42	10.98	14.47
Kotak Mahindra	25.32	6.23	15.19
Max Life	31.03	7.65	19.92
PNB Metlife	38.27	0.76	18.77
Reliance Nippon	45.60	-4.39	15.89
SBI Life	34.52	3.67	18.28
TATA AIA	23.99	-7.61	6.03
LIC	9.74	5.59	7.62
Others	91.81	5.00	107.86
All firms	13.30	5.00	8.89

Table 1 C: Market Share of various Life Insurance Companies in Net Premium (in %)

Co.	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aviva	0.73	0.94	0.89	0.89	0.80	0.83	0.73	0.58	0.53	0.39
Bajaj Allianz	3.42	4.83	4.79	4.30	3.29	2.60	2.39	1.84	1.82	1.60
Birla Sunlife	1.11	1.60	2.04	2.05	1.92	2.01	1.77	1.48	1.55	1.48
Exide Life	0.45	0.57	0.65	0.62	0.59	0.58	0.61	0.58	0.62	0.55
HDFC Stand.	1.81	2.40	2.49	2.63	3.08	3.55	3.93	3.82	4.52	4.43
ICICI Prudent	5.07	6.73	6.92	6.22	6.12	4.86	4.69	3.92	4.64	5.20
IDBI Federal	0.00	0.01	0.14	0.21	0.28	0.26	0.28	0.26	0.32	0.34
Kotak Mahind	0.61	0.83	1.04	1.08	1.01	1.01	0.95	0.85	0.91	1.07
Max Life	0.95	1.34	1.73	1.81	1.97	2.21	2.30	2.30	2.48	2.50
PNB Metlife	0.31	0.57	0.89	0.95	0.85	0.92	0.83	0.69	0.72	0.75
Reliance Nippon	0.64	1.60	2.22	2.49	2.25	1.91	1.40	1.36	1.40	1.20
SBI Life	1.88	2.79	3.25	3.80	4.42	4.57	3.63	3.40	3.91	4.29
TATA AIA	0.87	1.01	1.24	1.32	1.37	1.26	0.96	0.74	0.64	0.67
LIC	81.98	74.47	71.01	70.20	69.89	70.83	72.89	75.60	73.25	72.85
others	0.16	0.31	0.69	1.44	2.17	2.60	2.64	2.55	2.68	2.70
Whole industry	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 2: Income from Investments of various Life Insurance Companies (Rs crore)

Insurer	**2007**	**2008**	**2009**	**2010**	**2011**	**CAGR (%)**
Aviva	103.9	172.2	-359.8	1408.4	485.8	36.1
Bajaj Allianz	305.3	719.4	-3130.2	10038.6	4094.7	68.1
Birla Sunlife	210.3	510.3	-636.4	4033.3	1530.3	48.7
Exide Life	73.7	147.3	-302.4	1032.2	399.9	40.3

HDFC Standard	245.9	589.7	-1690.2	5756.3	2113.7	53.8
ICICI Prudential	1022.2	2985.4	-533.6	4663.0	8416.6	52.4
IDBI Federal	0.0	6.7	1.3	132.7	108.1	74.5
Kotak Mahindra	126.6	278.0	-318.9	1074.4	676.3	39.8
Max Life	107.2	245.8	-184.5	2029.5	1076.4	58.6
PNB Metlife	39.0	83.2	48.3	208.2	290.3	49.4
Reliance Nippon	47.9	-53.0	-951.9	3479.9	1541.2	100.2
SBI Life	267.7	577.0	-1633.8	6019.7	3058.5	62.8
TATA AIA	168.2	295.9	-703.7	2123.9	1039.1	43.9
LIC	45698.2	56389.5	42803.8	112424.9	95867.4	16.0
Insurer	**2012**	**2013**	**2014**	**2015**	**2016**	**CAGR**
Aviva	-143.3	624.9	884.6	1508.6	271.7	31.34
Bajaj Allianz	251.4	3260.7	5451.8	8109.1	1502.8	43.0
Birla Sunlife	-82.9	2186.0	2610.8	5436.8	791.9	63.79
Exide Life	109.2	537.2	711.8	1151.0	565.1	38.9
HDFC Standard	287.3	2614.0	5187.4	12450.2	1959.4	46.8
ICICI Prudential	77.9	6605.9	9604.2	19257.5	1807.9	87.5
IDBI Federal	43.8	221.1	362.4	520.4	192.9	34.5
Kotak Mahindra	289.2	1013.2	1123.1	2729.2	625.4	16.7
Max Life	453.4	1518.7	2403.7	4376.3	1508.6	27.2
PNB Metlife	-131.5	829.5	1187.5	2029.6	335.5	35.56
Reliance Nippon	-480.6	1707.9	2363.9	3351.0	718.8	28.49
SBI Life	679.1	4524.5	6556.2	10519.0	3658.7	40.0
TATA AIA	70.6	1431.1	2260.6	4012.5	693.9	57.9
LIC	84362.4	117485.6	143001.1	167818.6	157028.7	13.2

Table 2 A: ANOVA of Income from Investments

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	94179443340	13	7244572564	47.227	.000
Within Groups	19328268820	126	153398958.9		
Total	113507712200	139			

Table 3: Underwriting Income of Insurance companies in India (Rs crore)

Life Insurers	**2007**	**2008**	**2009**	**2010**	**2011**	CAGR
Aviva	468.01	815.83	860.62	869.67	477.69	0.41
Bajaj Allianz	2621.70	5371.24	6939.08	6048.84	2397.67	-1.77
Birla Sunlife	1074.23	1835.96	2193.81	2523.13	2158.16	14.97
Exide Life	258.78	560.02	730.88	807.16	494.36	13.82
HDFC Standard	1893.84	2991.60	2697.93	3632.28	4200.31	17.27
ICICI Prud	5135.55	7814.13	9708.23	6138.81	4536.12	-2.45
IDBI Federal	0.00	-20.41	180.86	373.38	525.38	95.92
Kotak Mahindra	477.60	848.34	1265.01	1625.26	1228.31	20.80
Max Life	670.09	1321.93	1573.82	2237.95	2385.96	28.92
PNB Metlife	134.92	431.99	937.49	1375.78	1379.08	59.19
Reliance Nipp	397.02	1755.69	2256.87	3642.71	2480.71	44.26
SBI Life	2269.59	4418.04	5726.48	7833.11	8462.46	30.11
TATA AIA	736.33	996.05	1287.16	1859.61	2086.37	23.16
LIC	58281.48	75361.76	85712.53	82590.52	61943.27	1.23
All Firms	74419.11	104502.17	122070.78	121558.21	94755.82	4.95
Life Insurers	**2012**	**2013**	**2014**	**2015**	**2016**	CAGR
Aviva	260.34	-481.12	-465.52	-357.09	-606.19	-218.42
Bajaj Allianz	187.04	-4296.61	-3990.37	-3351.86	-250.45	-206.01
Birla Sunlife	1638.55	95.85	242.16	567.45	400.15	-24.57
Exide Life	305.19	-47.88	188.30	-9.56	349.08	2.72

HDFC Standard	5401.52	5434.14	6106.44	5158.10	6242.88	2.94
ICICI Prudential	2956.54	-2552.10	-1273.59	1363.50	4836.10	10.34
IDBI Federal	397.87	224.99	292.09	442.55	552.40	6.78
Kotak Mahindra	835.36	304.24	292.99	582.46	1351.16	10.09
Max Life	2725.51	2252.63	3123.75	3394.38	4778.99	11.89
PNB Metlife	1196.00	341.26	93.24	-14.21	641.63	-11.71
Reliance Nippon	1050.15	-3128.65	-2325.41	-3113.12	-1271.69	-203.90
SBI Life	6863.01	989.11	851.99	3492.24	6383.65	-1.44
TATA AIA	1719.05	87.00	-805.18	-1750.25	-1012.48	-189.95
LIC	56467.10	42446.65	55166.06	73145.33	102551.32	12.68
All Firms	82003.24	41669.52	57496.94	79549.91	124946.54	8.79

Table 3 A: ANOVA of Underwriting Income

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42965120460	13	3305009266	124.533	.000
Within Groups	3343950684	126	26539291.14		
Total	46309071150	139			

Table 4: ROA of Private sector and Public sector Life insurance firms in India (in %)

Insurer	**2007**	**2008**	**2009**	**2010**	**2011**	**Average**
Aviva	-7.881	-6.997	-12.826	-5.289	0.379	-6.523
Bajaj Allianz	-1.105	-1.628	-0.415	1.686	2.754	0.258
Birla Sunlife	-3.503	-6.458	-7.688	-2.709	1.548	-3.762
Exide Life	-14.011	-8.817	-6.981	-2.873	-1.185	-6.773
HDFC Standard	-2.511	-2.687	-4.780	-1.366	-0.373	-2.343
ICICI Prudential	-4.408	-5.446	-2.683	0.494	1.234	-2.162
IDBI Federal	0.000	-13.786	-17.901	-9.367	-6.106	-9.432
Kotak Mahindra	-6.094	-2.392	0.360	1.035	1.197	-1.179
Max Life	-3.251	-4.234	-6.794	-0.205	1.429	-2.611
PNB Metlife	-1.582	1.200	0.492	0.427	0.323	0.172
Reliance Nippon	-26.623	-20.588	-17.416	-2.087	-0.728	-13.488
SBI Life	0.083	0.347	-0.190	0.986	0.937	0.433

TATA AIA	-3.249	-8.883	-11.357	-4.257	0.412	-5.467
LIC	0.124	0.109	0.114	0.903	0.091	0.268
Insurer	**2012**	**2013**	**2014**	**2015**	**2016**	**Average**
Aviva	0.959	0.412	0.654	0.553	0.101	0.536
Bajaj Allianz	3.421	3.505	2.960	2.308	2.216	2.882
Birla Sunlife	2.190	2.373	1.494	0.939	0.451	1.489
Exide Life	-0.493	0.339	0.687	0.735	0.924	0.438
HDFC Standard	0.840	1.127	1.263	1.195	1.128	1.111
ICICI Prudential	2.023	2.144	1.923	1.600	1.727	1.884
IDBI Federal	-2.755	0.311	2.268	3.508	0.303	0.727
Kotak Mahindra	2.111	1.769	2.068	1.590	1.593	1.826
Max Life	2.724	2.343	2.034	1.521	1.420	2.008
PNB Metlife	0.378	0.488	0.446	0.412	0.400	0.425
Reliance Nippon	1.999	2.218	2.146	0.812	-1.258	1.183
SBI Life	1.185	1.224	1.255	1.156	1.082	1.180
TATA AIA	1.803	2.053	2.340	1.570	0.364	1.626
LIC	0.095	0.098	0.097	0.092	0.116	0.100

Table 4A: ANOVA of Return on Assets

	Sum of Squares	df	Mean square	F	sig
Between Groups	699.629	13	53.818	2.441	.006
Within Groups	2469.214	112	22.047		
Total	3168.843	125			

Table 4.5: Profit After Tax of Insurance Companies (Rs lakhs)

Insurer	**2007**	**2008**	**2009**	**2010**	**2011**	**Average**
Aviva	(13175)	(20249)	(49505)	(34472)	2875	(22905)
Bajaj Allianz	(7170)	(21389)	(7068)	54229	105704	24861
Birla Sunlife	(13974)	(44528)	(70214)	(43550)	30500	(28353)
Exide Life	(17757)	(19053)	(19450)	(13676)	(7008)	(15389)
HDFC Standard	(12556)	(24351)	(50296)	(27518)	(9900)	(24924)
ICICI Prudential	(64891)	(139506)	(77970)	25797	80762	(35162)
IDBI Federal		(2553)	(11023)	(10495)	(12178)	(9062)

Kotak Mahindra	(11047)	(7187)	1434	6922	10247	74
Max Life	(6047)	(15693)	(39302)	(2091)	19406	(8745)
PNB Metlife	(1197)	2125	1452	2506	2528	1483
Reliance Nippon	(31511)	(76807)	(108491)	(28379)	(12929)	(51623)
SBI Life	383	3438	(2631)	27646	36634	13094
TATA AIA	(7236)	(33930)	(56524)	(40001)	5179	(26503)
LIC	77362	84463	95735	106072	117180	96162
Insurer	**2012**	**2013**	**2014**	**2015**	**2016**	**Average**
Aviva	7357	3200	5251.78	5017.71	872.15	4340
Bajaj Allianz	131120	128564	102459.1	87621.18	87896.96	107532
Birla Sunlife	46073	54150	37075	28540.29	13999.94	35968
Exide Life	(3115)	2307	5302.87	6525.93	8876.43	3980
HDFC Standard	27102	45148	72528.19	78550.53	81840.33	61034
ICICI Prudential	138417	149594	156665.6	163429.2	165046.1	154630
IDBI Federal	(6986)	924	8011.78	15455.86	1528.19	3787
Kotak Mahindra	20325	18974	23913.34	22889.32	25074.69	22235
Max Life	45983	42345	43591.51	41424.18	43911.04	43451
PNB Metlife	3317	4834	4890.59	5242.68	5362.6	4729
Reliance Nippon	37257	38042	35888.37	13517.91	-19727.8	20995
SBI Life	55582	62217	74013.42	82004.21	86103.41	71984
TATA AIA	26031	33154	41294.86	26361.93	6362.65	26641
LIC	131334	143759	165668.1	182378.4	251784.8	174985

Table 5A: ANOVA of PAT

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	217014158100	13	16693396780	7.657	.000
Within Groups	274689395500	126	2180074568		
Total	491703553600	139			

Table 6: **Solvency ratio of Insurance Companies**

INSURERS	March 2007	March 2008	March 2009	March 2010	March 2011
Aviva	6.31	4.29	5.91	5.12	5.40
Bajaj Allianz	2.45	2.34	2.62	2.68	3.66
Birla Sun	1.80	2.37	2.44	2.11	2.89
Exide Life	2.87	2.36	2.26	1.79	3.00
HDFC Standard	2.05	2.38	2.58	1.80	1.72
ICICI Prudential	1.53	1.74	2.31	2.90	3.27
IDBI Federal	-	3.45	6.11	4.05	6.60
Kotak Mahindra	1.64	2.41	2.69	2.79	2.67
Max Life	2.08	2.25	3.04	3.22	3.65
PNB Metlife	1.73	1.70	2.27	1.65	1.69
Reliance Nippon	1.62	1.65	2.50	1.86	1.66
SBI Life	1.78	3.30	2.92	2.17	2.04
TATA AIA	2.59	2.50	2.51	2.11	2.16
LIC	1.50	1.52	1.54	1.54	1.54
INSURERS	**March *- 2012**	**March 2013**	**March 2014**	**March 2015**	**March 2016**
Aviva	5.15	4.23	4.15	3.80	3.84
Bajaj Allianz	5.15	6.34	7.34	7.61	7.93
Birla Sun	2.99	2.67	1.86	2.05	2.11
Exide Life	2.16	1.80	2.39	2.90	2.65
HDFC Standard	1.88	2.17	1.94	1.96	1.98
ICICI Prudential	3.71	3.96	3.72	3.37	3.20
IDBI Federal	6.61	4.90	4.72	5.07	4.06
Kotak Mahindra	3.06	2.93	3.02	3.13	3.11
Max Life	5.34	5.21	4.85	4.25	3.43
PNB Metlife	1.65	2.07	2.28	2.19	2.11
Reliance Nippon	3.53	4.29	4.42	3.55	3.04
SBI Life	5.34	2.15	2.28	2.16	2.12
TATA AIA	2.84	3.41	4.09	4.17	3.48
LIC	1.54	1.54	1.54	1.55	1.55

Table 6 A: ANOVA of Solvency Ratio of Life Insurers in India

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	134.586	13	10.353	8.351	0.000
Within Groups	173.555	140	1.240		
Total	308.141	153			

Table 7: Combined ratio of Insurance companies 2007-2016

INSURER	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Aviva	59	57	57	63	80	89	123	130	125	145
Bajaj Allianz	51	45	35	47	75	98	162	173	161	109
Birla Sunlife	40	44	52	54	62	74	102	100	94	97
Exide Life	63	52	49	51	71	82	103	97	107	90
HDFC Stand.	34	38	52	48	53	47	52	56	72	69
ICICI Prudent.	35	42	37	63	75	81	121	124	100	85
IDBI Federal		271	43	35	35	46	72	76	66	63
Kotak Mahind.	51	50	46	43	59	72	89	95	88	74
Max Life	55	51	59	54	59	57	68	69	70	60
PNB Metlife	73	63	53	46	45	55	86	102	108	84
Reliance Nipp	60	46	54	45	62	81	177	163	174	135
SBI Life	22	21	21	22	35	48	91	99	80	66
TATA AIA	46	52	53	47	48	53	97	140	189	148
LIC	55	50	46	56	70	73	80	84	77	68