



Evaluation of financial performance of insurance industry in Bangladesh: A comparative study of life and non-life insurance sector

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Abstract

The principal goal of this study is to evaluate the financial performance of insurance industry of both life and non-life insurance sector in Bangladesh. For evaluating the financial performance 9 (nine) years data has been taken (2009-2017). Financial performance will be evaluated based on ratio analysis such as proportion of claim (CR), proportion of expenses (ER), proportion of underwriting result (UR), proportion of investment income (IIR), and proportion of return from equity ratio (ROE) and net earnings ratio (NER) etc. From the annual financial report of IDRA ((Insurance Development and Regulatory Authority), Swiss Re institution, website etc., the data has been taken. Some Statistical tools has been used that are average, standard deviation and independent sample 't' test. The financial performance analysis of life as well as non-life area indicated that, life area is enjoying greater profitability than nonlife insurance sector. The P-value is 0.000 which is ≤ 0.05 that indicates that there is an important gap in the middle of return from equity of life and nonlife area in Bangladesh. So, Non-life insurance sector should be reduced claim and management expenses and improved investment income and underwriting profit for better financial performance.

Keywords: Financial performance, life insurance, Non-life Insurance, Profitability, and ROE (Return on Equity)

Introduction

Insurance industry is directly linked to the economy of Bangladesh. Its contribution in whole economy was Tk 12,456.5 crore in 2019 and Tk 11,442.5 crore in 2018. Total growth rate was 8.9 percent. Its contribution was Tk 8,722.7 crore from life sector and Tk 3,737.8 crore from non-life in 2019 and Tk 8,151.30 crore from life sector and Tk 3,291.2 crore from non-life sector in 2018. The growth rate of life sector was 7.00percent and growth rate of nonlife sector was 13.4 percent in 2019. The penetration rate of life and non-life combined 0.49 percent in 2019 and 0.34 percent in 2018. The density of life and nonlife combined \$ 9 in 2019 and \$ 6 in 2018. (Sigma, 4/2020). The insurance industry is mainly consisted with two segments. One is life insurance and another is non-life insurance. In general sense, life insurance deals with the life risks of human being and non-life insurance deals with the risks of property or assets. In border sense, life insurance is a contract between the policy holder and insurer or insurance company, where insurance company is ready to pay a sum of money, if policy holder is died subject to receive an amount of premium from insured for a particular period. On the other hand, Non-life insurance is also a contract between insured and policy holders and insurer or insurance company, where insurance company is ready to compensate any amount of loss or damage of the property of the policy holder subject to receive an amount of premium from the insured for the risks of the any property for a particular period.

There are 78 (Seventy eight) insurance firms both life and non-life in Bangladesh including two state own corporations i.e. one is Sadharon Bima Coporation and another is Jibon Bima Corporation. Among 78 insurance firms, 45 companies are operating non-life insurance business and 33 companies are operating life insurance business. The growth rate of insurance industry is growing up day by day. The contribution of this sector to GDP is also gradually increased. Insurance industry is basically a form of the risk

management. It is a risk transfer mechanism against the risk of a particular loss from one shoulder to another. Besides, In case of life insurance, two dimensional activities are performed, one is protected life risks and also a mode of savings. In case of non-life insurance, it is performing various activities such as indemnified the loss of any damage of the property, accelerating the international business by issuing marine cover note, formulating the capital of th country. Both sectors ultimately playing a vital role for the economic development of Bangladesh.

Review of Literature

The review of literature is a way for a researcher to review the previous research conducted in the same field and area of interest which provides a guideline to a researcher. Every researcher needs to know an up to date information about the literature which is involved with his or her own topic that already conducted by others researchers. The review of literature provides an optimum idea regarding the solution of the problem. The area of insurance is an interesting area for many scholar. An overview of previous related research work has been given below that was carried by different researcher at national and international level.

Norgaar and Schick (1970) ^[25], conducted a study of profitability in the property and liability insurance industry. The study concluded that performance of automobile insurance is better than fine and allied line insurance. Chidambaran *et al* (1997) ^[8], Economic loss ratio as ascertain of pricing performance was the main focus of the study. The study inferred that most important determinants of performance was concentration ratio. Rao (1998) ^[27], the study concluded that the physical performance of the LIC was noticeable but, financial performance was not up to the mark. Verma (2000) ^[31], the study concluded that GIC needs to be revised the pricing of non-life insurance contract and increase IT support for improving management, customer service, efficiency and competitiveness. Barua, Mamun &

Islam, (2000)^[21] discovered that profitability of nationalized non-life insurance sector is reducing due to the government policy, inefficiency and lethargy. Nationalized sector should try to progress its operation by enhancing scope of investment and proper utilization of total assets. Brien (2001)^[6], The research inferred that new entrants can be able to boost up a new business and worth's but, they made slight influence in terms of market share. Rudolf (2001) found that underwriting result and investment income are negatively correlated with profitability and suggested that insurer should focus on underwriting results for obtaining an upper profitability level due to the future risk of investment result. Chen and Wong (2004)^[9], identified that the firm size, investment performance, liquidity ratio, surplus growth, combined ratio, and operating margin are the main factors to magnify the financial health of nonlife insurance firms. Hoyt and Powell (2006)^[11], identified that Economic combined ratio and return on equity (ROE) were the main parameter of the study. The research did not find any evidence that medical liability insurance was earnings extreme return or over capitalized. Kasturi (2006)^[16], he stated that financial performance of an insurance company is as usually ascertained by profitability earn from underwriting activities, return on investment (ROI), return on equity (ROE) etc. Mahmud (2008) observed that there is no significant difference between the mean of efficiency of financial performance, ratios relating to return on investment (ROI), return on equity (ROE), and total liability to total assets and under writing result. Kumar, R. (2010)^[15] identified that public sector shown a higher underwriting losses than private sector but due to the upper return on investment which brought out a upper profitability for public sector than private sector. Mamun (2011)^[22], he stated that the size of the market was not absolutely appropriate with the number of companies. So, the performance of nonlife insurance sector is very poor in Bangladesh. Sarker, A. (2013) found that management expenses ratio and claim ratio of private sector are lesser than that of public sector. So, Public sector follows comparatively upper return on investment (ROI). Khan (2015)^[18], conducted a research regarding the determinants of profitability of nonlife insurance company in Bangladesh. Khan (2016)^[19], the study concluded that government sector life and nonlife insurance sectors can be making more profitable, if the regulatory authority take some initiatives to progress a quality services for the clients and others related tasks to create a suitable investment environment.

Research Gap

From the observation of the review of literature, it is found that most of the research has been conducted on either life insurance or nonlife insurance, but few research conducted on combined both life and nonlife insurance. Besides, most of the study was conducted at international level, but few studies has been conducted at the national level. So, a research gap is present there and this research paper is a humble effort to fill up this gap.

Research Methodology

The present study is basically based on secondary data. The data has been collected from the annual reports of IDRA (Insurance Development & Regulatory Authority) of Bangladesh, various journal, Swiss Re institution, books and website etc. Data has been taken for a period of 9 (nine)

years (2009-2017). Data has been analyzed based on some ratios such as proportion of claim, proportion of expenses, proportion of underwriting, proportion of investment income, proportion of net retention, proportion of return on equity, proportion of operating expenses, combined proportion and proportion of net earnings. Some statistical technique has been used for experimenting the data such as mean, range, standard deviation, correlation and regression. Independent sample 't' test used for testifying the hypothesis. IBM SPSS software used for the analysis of data.

Main purpose of the Research

The main objectives of the study has been mentioned `as follows:

- To evaluate the financial performance of insurance industry both life and non-life sectors in Bangladesh.
- To evaluate Return on Equity (ROE) as a driver of financial performance between life and non-life insurance sector in Bangladesh.
- To recommend suggestions for the successful financial performance of life and non-life insurance sector in Bangladesh.

Hypothesis of the Study

In order to comply with the actual target of the study, the following hypothesis have been formulated:

H₀: the financial performance of life and nonlife insurance sectors in Bangladesh is not significantly different.

H₁: the financial performance of life and nonlife insurance sectors in Bangladesh is significantly different.

Comparative financial performance evaluation of the life and non-life Insurance sector in Bangladesh based on Ratio Analysis (Findings)

Financial performance has been evaluated based on some ratio analysis and ratios have been calculated based on premium, claim, investment income, management expenses, unexpired risk reserve and profit of life and non-life insurance sector in Bangladesh.

1. Proportion of Claim (PCI)

The Scenario of proportion of claim paid has been shown in table 01. A high proportion of claim indicates inefficient claim management and low proportion of claim indicates well claim management team

Table 1: Claim Ratio Percentage (%)

Year	Life Insurance	Nonlife Insurance	Insurance Industry
2009	32.19	78.58	39.98
2010	32.40	82.82	40.71
2011	37.08	79.20	44.28
2012	44.53	76.02	50.79
2013	51.39	81.49	57.30
2014	61.35	81.08	65.34
2015	77.94	79.37	78.23
2016	82.66	79.25	81.96
2017	83.28	79.81	82.57
Mean	55.87	79.73	60.13
Range	51.09	6.80	42.59
St. D.	21.21	1.94	17.55

Source: Annual Report of Insurance Development and Regulatory Authority (IDRA)

It is evident from table 01, the CR of life insurance sector has an increasing trend and nonlife insurance has a fluctuated trend and whole industry has an increasing trend from 2009 to 2027. In 2009, CR of life sector was 32.19%, it was 61.35% in 2014 and it was 83.28% in 2017. In 2009, CR of nonlife sector was 78.58%, it was 79.37% in 2015 and it was 82.57% in 2017. In 2009, CR of whole industry was 39.98%, it was 78.23% in 2015 and it was 82.57% in 2017. The mean value of CR of life sector is 55.87%. The range value of CR of life sector is 55.87% and standard deviation value is 21.21%, both values are smaller but not more small by which it can be implies lower and better variability of data. The mean value of CR of non-life sector is 79.73%. The range value of CR of non-life sector is 6.80% and standard deviation value is 1.94%, both values are smaller than mean values which implies lower and better variability of data. The mean value of CR of whole industry is 60.13%. The range value of CR of whole industry is 42.59% and standard deviation value is 17.55%, both values are smaller but not more small by which it can be implies lower and better variability of data for more precise measurements and accurate result.

2. Proportion of Expenses (PEX)

The Scenario of proportion of expenses has been shown in table 02. A high proportion of expenses indicates inefficient management and low proportion of claim indicates well management team.

Table 2: Expenses Ratio Percentage (%)

Year	Life Insurance	Nonlife Insurance	Insurance Industry
2009	40.20	47.60	41.44
2010	41.56	48.19	42.66
2011	40.42	49.55	41.99
2012	36.58	42.46	37.75
2013	33.51	45.31	35.82
2014	35.42	48.69	38.10
2015	35.81	48.55	38.40
2016	36.75	48.86	39.23
2017	35.82	48.16	38.36
Mean	37.34	47.48	39.31
Range	8.05	7.09	6.84
St. D.	2.73	2.22	2.25

Source: Annual Report of Insurance Development and Regulatory Authority (IDRA)

The trend on expenses ratios of both the life and non-life insurance sector for the period of 2009 to 2017 has been shown in Table-2. The ER of life and nonlife and whole industry has a fluctuated trend from 2009 to 2017. In 2009, ER of life sector was 40.20%, it was 33.51% in 2013 and it was 35.82% in 2017. In 2009, ER of nonlife sector was 47.60%, it was 48.55% in 2015 and it was 48.16% in 2017. In 2009, ER of whole industry was 41.44%, it was 38.40% in 2015 and it was 38.36% in 2017. The mean value of ER of life sector is 37.34%. The range value of ER of life sector is 8.05% and standard deviation value is 2.73%, both values are smaller than mean value which implies lower and better variability of data. The mean value of ER of non-life sector 47.48%. The range value of ER of non-life sector is 7.09% and standard deviation value is 2.22%, both values are smaller than mean values which implies lower and better

variability of data. The mean value of ER of whole industry is 39.31%. The range value of ER of whole industry is 6.84% and standard deviation value is 2.25%, both values are smaller but not more small by which it can be implies lower and better variability of data for more precise measurements and accurate result.

3. Proportion of under writing Result (PUR)

The Scenario of proportion of underwriting result has been shown in table 03. Proportion of underwriting has been determined based on relating to claim paid and net premium net written premium, unexpired risks, and management expenses and claim charge.

Table 3: Underwriting Ratio Percentage (%)

Year	Life Insurance	Nonlife Insurance	Insurance Industry
2009	27.62	-72.66	10.77
2010	26.04	-75.54	9.30
2011	22.50	-73.11	6.15
2012	18.89	-18.48	2.34
2013	15.10	-71.83	-1.94
2014	3.23	-64.34	-12.35
2015	-13.75	-70.83	-25.65
2016	-19.40	-68.13	-19.68
2017	-19.10	-71.42	-40.40
Mean	6.79	-65.14	-7.94
Range	47.02	57.06	51.17
St. D.	19.54	17.78	17.72

Source: Annual Report of Insurance Development and Regulatory Authority (IDRA)

The direction on under-writing result ratios of both the life and non-life insurance sector for the period of 2009 to 2017 has been shown in Table-3. The UR of life and nonlife and whole industry has a declining and negative trend from 2009 to 2027. In 2009, UR of life sector was 27.62%, it was 15.10% in 2013 and it was -19.10% in 2017. In 2009, UR of nonlife sector was -72.66%, it was -70.83% in 2015 and it was -71.42% in 2017. In 2009, UR of whole industry was 10.77%, it was -25.65% in 2015 and it was -40.40% in 2017. The mean value of UR of life sector is 6.79%. The range value of ER of life sector is 47.02% and standard deviation value is 19.54%, both values are greater than mean value which implies greater and worst variability of data. The mean value of UR of non-life sector -65.14%. The range value of UR of non-life sector is 57.06% and standard deviation value is 17.78%, both values are greater than mean values which implies greater and bad variability of data. The mean value of UR of whole industry is -7.94%. The range value of UR of whole industry is 51.17% and standard deviation value is 17.72%, both values are greater than mean values which implies greater and bad variability for more precise measurements and accurate result.

4. Proportion of Investment Income (PII)

The Scenario of proportion of investment income has been shown in table 04. A high proportion of investment income indicates profit maximization and low proportion of investment income indicates profit minimization.

Table 4: Investment Income Ratio Percentage (%)

Year	Life Insurance	Nonlife Insurance	Insurance Industry
2009	20.98	21.05	20.99
2010	24.05	33.25	25.57
2011	20.99	20.98	20.99
2012	27.45	19.08	25.78
2013	32.56	5.44	30.55
2014	34.11	6.13	32.10
2015	33.84	5.33	31.19
2016	31.42	5.29	29.19
2017	30.21	6.15	28.88
Mean	28.04	13.63	27.24
Range	13.13	27.96	11.11
St. D.	5.26	10.25	4.18

Source: Annual Report of Insurance Development and Regulatory Authority (IDRA)

The tendency on investment income ratios of both the life and non-life insurance sector for the period of 2009 to 2017 has been shown in Table-4. The IIR of life and nonlife and whole industry has a fluctuated trend from 2009 to 2017. In 2009, IIR of life sector was 20.98%, it was 32.56% in 2013 and it was 30.21% in 2017. In 2009, IIR of nonlife sector was 21.05%, it was 5.33% in 2015 and it was 6.15% in 2017. In 2009, IIR of whole industry was 20.99%, it was 31.19% in 2015 and it was 28.88% in 2017. The mean value of IIR of life sector is 28.04%. The range value of IIR of life sector is 13.13% and standard deviation value is 5.26%, both values are smaller than mean value which implies lower and better variability of data. The mean value of IIR of non-life sector 13.63%. The range value of IIR of non-life sector is 27.96% and standard deviation value is 10.25%, both values are greater than mean values which implies greater and bad variability of data. The mean value of IIR of whole industry is 27.24%. The range value of IIR of whole industry is 11.11% and standard deviation value is 4.18%, both values are smaller than mean value which implies lower and better variability of data for more precise measurements and accurate result.

5. Proportion of Return on Equity (PROE)

The Scenario of proportion of return on equity has been shown in table 06. A high proportion of ROE indicates strong profit maximization and low proportion of ROE indicates weak profit maximization.

Table 6: Return on Equity Ratio Percentage (%)

Year	Life Insurance	Nonlife Insurance	Insurance Industry
2009	8.80	-1.19	6.42
2010	12.70	.39	9.97
2011	9.71	-1.82	7.36
2012	9.21	.10	7.29
2013	8.55	-1.01	6.58
2014	6.09	-1.26	4.68
2015	3.19	-1.52	2.30
2016	1.94	-1.52	1.28
2017	1.84	-.81	1.27
Mean	6.89	-.96	5.24
Range	10.86	2.21	8.70
St. D.	3.83	.74	3.05

Source: Annual Report of Insurance Development and Regulatory Authority (IDRA)

It is evident from table 06, the ROE of life insurance sector has a fluctuated trend and nonlife insurance has a declining and negative trend and whole industry has also a fluctuated trend from 2009 to 2017. In 2009, ROE of life sector was 8.80%, it was 6.09% in 2014 and it was 1.84% in 2017. In 2009, ROE of nonlife sector was -1.19%, it was -1.52% in 2015 and it was -.81% in 2017. In 2009, ROE of whole industry was 6.42%, it was 2.30% in 2015 and it was 1.27% in 2017. The mean value of ROE of life sector is 6.89%. The range value of ROE of life sector is 10.86%, which is greater than mean and standard deviation value is 3.83%, which is smaller than mean value which implies lower and better variability of data. The mean value of ROE of non-life sector is -.96%. The range value of ROE of non-life sector is 2.21% and standard deviation value is 0.74%, both values are greater than mean values which implies greater and rough variability of data. The mean value of ROE of whole industry is 5.24%. The range value of ROE of whole industry is 8.70% which is greater than mean value and standard deviation value is smaller but not smaller than mean value which implies moderate variability of data for more precise measurements and accurate result.

6. Proportion of Net Earnings (PNE)

The Scenario of proportion of net earnings has been shown in table 09. A high proportion of net earnings indicates strong financial soundness and low proportion of net earnings indicates weak financial position.

Table 9: Net Earnings Ratio Percentage (%)

Year	Life Insurance	Nonlife Insurance	Insurance Industry
2009	23.44	-5.13	18.88
2010	36.31	1.62	30.59
2011	3.15	-7.77	25.17
2012	33.60	.39	26.99
2013	34.56	-4.5	27.14
2014	27.06	-5.57	20.77
2015	14.56	-7.06	10.55
2016	9.01	-7.58	6.00
2017	8.33	-4.24	5.96
Mean	21.11	-4.42	19.11
Range	33.16	9.39	24.63
St. D.	12.66	3.34	9.46

Source: Annual Report of Insurance Development and Regulatory Authority (IDRA)

The trends of net earnings ratio of both life and non-life insurance sector for the period of 2009 to 2017 in Table 8. The NER of life and nonlife and whole industry has a fluctuated trend from 2009 to 2017. In 2009, NER of life sector was 23.44%, it was 27.06% in 2014 and it was 8.33% in 2017. In 2009, NER of nonlife sector was -5.13%, it was -7.06% in 2015 and it was -4.24% in 2017. In 2009, NER of whole industry was 18.88%, it was 10.55% in 2015 and it was 5.96% in 2017. The mean value of NER of life sector is 21.11%. The range value of NER of life sector is 33.16% which is greater than mean value and standard deviation value is 12.66% which is smaller than mean value but not rational small which implies moderate variability of data. The mean value of NER of non-life sector -4.42%. The range value of NER of non-life sector is 9.39% and standard deviation value is 3.34% both value implies greater and bad variability of data. The mean value of NER of whole industry is 19.11%. The range value of NER of whole

industry is 24.63% and standard deviation value is 9.46%, both values implies greater and bad variability of data for more precise measurements and accurate result

Test of Hypothesis

Independent Sample 't' test has been used for testifying of hypothesis.

Table 10: Test of Significance

Test	Ratio	T-value	P-value
Independent Sample 't' Test	ROE Ratio	6.025	0.000

Source: Author's own calculation.

In table 10, it is seen that the p- value is 0.000 which indicates that the return on equity (ROE) of both sectors are not different and Life sector enjoying higher profitability than that of non-life insurance sector. So, the research accepted alternative hypothesis and rejected null hypothesis.

Conclusion and Recommendations

This survey showed that there is a big difference between the profitability of life and non-life insurance. The life insurance sector is more profitable than the non-life sector. Lower administrative expenses ratio, lower claims rate and higher investment returns are the reasons for improving profitability. On the other hand, the high rate of claims, high rate of administrative costs and low investment returns in the P&C sector have led to a decrease in profitability. Therefore, it is clear that life insurance works better than non-life insurance.

Survey recommendations

Comparing the profitability of life and non-life insurance sectors shows that the life insurance sector is more profitable due to the reduction of operational costs and losses and higher investment returns. On the other hand, the property and casualty insurance sector suffers from low profitability due to high loss and administrative costs and low investment income. Therefore, this study recommends that the P&C insurance sector reduce claims and administrative costs and improve investment returns. The property/casualty department should develop an efficient loss management team, minimize unnecessary public expenditure, utilize assets properly and increase investments like stocks, bonds etc. instead of FDR.

As the non-life segment shows a negative underwriting rate, this segment needs to strengthen its marketing capabilities and build a strong underwriting team. The non-life insurance sector has a low net ownership ratio. Therefore, the sector needs to inject more capital to improve its net holding ratio, which improves its risk-bearing capacity. The overall score for the non-life insurance sector is high. Therefore, this department should reduce its combined ratio by deducting administrative and billing expenses. The performance of the loss and net margin department is negative. Therefore, the sector needs to improve these ratios by improving profits.

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