



## **Profitability Analysis of Non-life Insurance Sector in Bangladesh. (A comparative study of Public and Private Firms)**

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### **Abstract**

This article will present the profitability analysis of non-life insurance sector of public and private firms in Bangladesh. Non-life insurance sector is straightforwardly connected to the economy. As per IDRA, its contribution in whole insurance sector is Tk. 2983.15crores in 2016. Maximum private nonlife insurance firms have started their transaction from the year 2000 and data was available from 2003. So, the analysis is based on the 12Year's (2003-2014) statistical information relating to claim ratio (CR), expenses ratio (ER), underwriting result ratio (UR), investment income ratio (IR), net retention ration (NR) and return on equity ratio (ROE) etc. Data has collected from the annual reports of selected nonlife insurance firms and mean, standard deviation, correlation, regression and Mann-Whitney test tools has been used. The comparative profitability analysis of the public and private sector shows that, the public sector has exhibited higher claim ratio but a well investment income and low management expenses have indemnified their higher claim losses which resulted in to their slightly higher profitability than the private sector non-life insurance firms. The private sector has indicated higher management expense ratio but low claim ratio and higher investment income ratio have indemnified their higher management expenses ratio which resulted in to their profitability near to public sector. Public sector should increase their investment and reduce claim expenses. On the other hand, private sector should reduce their management expenses for higher profitability.

**Key wards: Non-life Insurance, Profitability, Claim ratio, Expenses ratio, Investment Income ratio, ROE (Return on Equity).**

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## 1. Introduction

The insurance industry of Bangladesh is about half a century old, but has not progressed as much as other service sector likes banking, cooperative organization etc. As a result of globalization, deregulation and terrorist threats, the insurance industry has undergone a tremendous transformation over the past decade (Mamun, 2011). Bangladesh is geographically small and has the world's 9<sup>th</sup> largest population but it also has one of the lowest penetration rates for non-life insurance in Asia in terms of premium as a percentage of GDP. Current insurance penetration rate is 0.5% (Mr. Townsend, April, 2017, Asian insurance overview). Combine premium income is stood 10,595.25 crores in 2016. (IDRA). Life sector is Tk. 7612.10 crores and non-life sector is Tk. 2983.15 crores. This situation reflects the fact that Bangladesh insurance market is still in its infancy meaning good growth potential. Strong economic growth of Bangladesh in the last decade combined with a population of over 16 crore makes it one of the potentially largest insurance markets in the future. It has been estimated that insurance sector growth is more than three times the growth of economic of Bangladesh (IDRA, 2016). It is the reason that 45 non-life private insurance firms are investing in insurance sector in Bangladesh.

Due to the demand of business Community, the Government of people Republic of Bangladesh introduced private none life insurance firms in insurance industry since 1984. It has thrown a new challenge before the public sector. Now it has become quite tough for the sector to work in an environment. There is uncertainty regarding the effect of privatization on the profitability of public sector which is important for the safety and soundness of insurance industry in Bangladesh.

### 1.1 What is Profitability?

Profitability is a financial measure used for evaluating return on investment either for a company as a whole or investors individually. Profitability demonstrates how effectively a company is using its assets and investors capital to generate earnings. Profitability means ability to make profit from all business activities of an organization, company, firm or enterprises (PDFshodhganga. inflibnet.ac.in> 17\_chapter 8). It shows how efficiently management can make profit by using all the resources

available in the market. According to Harward and Upton (1961), “Profitability is the ability of a given investment to earn a return from its use”

## 1.2 Drivers of Profitability

To analyze the drivers of profitability, it is useful to decompose ROE into its main components. Profits are determined first by underwriting performance (losses and expenses, which are affected by product pricing, risk selection, claims management, and marketing and administrative expenses); and second, by invest performance, which is a function of asset allocation and asset management as well as asset leverage. The first fork of the decomposition shows that an insurer’s ROE is determined by earnings after taxes realized for each unit of net premiums (or profit margin) and by the amount of capital funds used to finance and secure the risk exposure of each premium unit (Kumar, 2010).

## 2. Review of Related Literature

The discipline of insurance development through non-life insurance has been a fascinating hold of research for many scholars. A modest attempt has been adopted to search for related literature and studies of non-life insurance review. After a continuous search a brief summary of the major studies which are particularly relevant to the non-life insurance, is presented here.

**Chidambaran et al. (1997)**, in their paper, shown an editorial analysis of the economic performance of the U.S. property liability insurance industry, based on estimation across 18 lines of insurance during the period of 1983 to 1984. The research modified an industrial organization at approach, focal pointing on the economic loss ratio as an expedient of pricing performance. The study found that economic performance of property liability insurance is related to industry concentration. So, the concentration line and share of direct writers are the significant determinants of performance.

**Baltelsmit and Bouzouita (1998)**, in their article, presented the relationship between profitability and market structure in automobile insurance. The data has been taken from 1984 t 1992 for te study. The study found a positive relationship between concentration and performance. There is a

significant positive impact of concentration on profitability for combined liability and physical damage lines in private passenger automobile insurance.

**Barua, Mamun & Islam (2000)**, in their study, approached an experiential analysis of performance of nationalized general insurance company of Bangladesh. The study conducted based on the data from 1983 to 1997. The research found that, the nationalized general insurance sector of Bangladesh is passing through a crucial time. Profitability of this sector decrease due to the bureaucracy, inefficiency and lethargy. The study concludes that, the nationalized Corporation (SBC) should try to improve its performance by increasing portfolio of investment and proper utilizing of total assets and introduce innovative idea for revising direct underwriting business, which will be unable to compete as other private nonlife insurance firms.

**Verma (2000)**, in her research, presented the performance evaluation of the General Insurance Corporation (GIC) of India and its subsidiary companies over the years, focusing on the effects of various insurance sector reforms on future development of nonlife insurance in India. The study concluded based on the secondary and primary data. The research found that, GIC along its subsidiary companies is not only a powerful insurance institution but also a strong institutional investor in the financial market of India, which brings maximum return and fulfill the organizational objectives. But underwriting result shows a loss in about all the years except 1993 -94. So, the study concludes that, GIC should reform their pricing, use to ICT for efficient management, competitiveness and quality customer service.

**Rudolf (2001)**, in his research, analyzed the main factors and recent trends for determining profitability fo nonlife insurance industry in the insurance market. The study took the period from 1996 to 2000 for focusing on the nonlife insurance market of group of seven countries (G- 7). To analyze the drivers of the profitability, return on equity was decomposed as main components namely underwriting results and investment income. To analyze the profitability, underwriting results and investment result

were compared between countries. The research found that, underwriting and investment are negatively correlated. The study concluded that the insurer should emphasize on underwriting results for achieving high profitability due to uncertain probability for investment results.

**Lai and Limpaphayom (2003)**, in their paper, experimented the relationship between the organizational structure and performance of nonlife insurance industry in Japan. The data has been taken for the period of 1983 to 1994 of 26 nonlife insurers in Japan. The data collected from the annual special issues of statistics of Japan nonlife insurance business published by the Insurance Research Institute of Japan and data base of PACAP. The study found that six horizontal keiretsu groups have lower levels expense and free cash flow than independent stock and mutual insurance firms. Keiretsu groups also have higher profitability and loss ratio than independent insurers. Mutual insurers have higher level of free cash flows, higher investment incomes and lower financial leverage than stock companies. The study concludes and suggested that every organization structure has a comparative merit as per its own feature.

**Chen and Wong (2004)**, in their article, analyzed the determinants of financial health of Insurance companies (life and nonlife) in Asia. They used firm data and macro data separately. The study released that the failures of insurers are not existent in Malaysia, Singapore, and Taiwan except in Japan. The research found that the key factors that significantly affect life insurer's financial health are firm size, change in asset mix, and change in product mix and investment performance. Someway, investment performance, liquidity ratio, surplus growth, combined ratio and operating margin are the key factors which significantly influence the nonlife insurer financial health in Asian economies. Singapore insurer is significantly weakened in Asian financial crisis. The study indicated that different regulatory bodies are required for Asian financial crisis as the insurance industry in different Asian economies is at different stages of development.

**Deloitte and Touche (2004)**, in their paper, examined the profitability and effectiveness of the federal Multiple Peril Crops Insurance (MPCI) program. The data was taken for the period of 1992 to 2002 based on historical aspect from MPCI business and the property and casualty insurance business. The study described that, MPCI business does not own risk return advantage compare to the P& C business. Historical, an annual net loss was only in 2001 for P&IC business. But, for MPCI business, annual net loss was in three years (1988, 1993 and 2002) during the period of 1988 to 2002.

**Hoyt and Powell (2006)**, in their article, assessed the financial performance of medical professional liability insurance based on two suitable parameters namely, the economic combined ratio (ECR) and the return on equity. The data was taken for the period of 1996 to 2004. On the basis of ECR, it was noticed that, medical liability insurers obtained modest profitability in only three years (1996, 1997, and 2004). But, sustained losses in six successive years from 1998 to 2003. The study concluded that, medical liability insurers never earns overflowing return and be huge capitalized.

**Holzheu (2006)**, in his paper, ascertained the underwriting profitability of nonlife insurance industry. The data was taken for the year of 1994 to 2004 for Japan, Canada, France, Germany, UK and U.S.A. The picture for the business year results for Japan, Canada, France, Germany and U.K were consistent with the U.S.A results. The study also indicated that the ten-year average underwriting margins before taxes were positive in all countries implying a positive contribution to profits from the insurance activities. Anyway, the endowment was only about 1-2per cent in the US and Japan, 2-3per cent in France, 5per cent in Canada and the UK, and 6per cent in Germany. The study pointed out that these positive results were essential but not a compulsory condition for creating shareholder value.

**Mahmoud (2008)**, in his article, measured the financial performance of insurance companies in Egypt. The data has been taken from three companies of public sector and others from private sectors

for the period of 1992-93 to 2005-06. He has used 25 ratios to assess the efficiency and financial performance. These ratios were reformed to six factors through factor analysis. The study identified that there is no significant difference between the mean of efficiency of financial performance, ratios of the public and private sectors for the following ratio returns on investments, net profit to total assets, net profit to surplus, total liabilities to total assets, and underwriting expenses paid to premiums written. Public sector cases shown 66.7per cent of the low-efficiency, whereas private sector cases present 47.6per cent of high-efficiency clusters for financial performance.

**Kumar, R. (2010)**, in his research paper, evaluated the performance of general insurance companies of public and private sectors in India. In the post-reform period, the comparative profitability analysis of the public and private sectors reveals that the public sector general insurance companies have shown higher underwriting losses than the private sector companies but the higher investment income of the public sector has indemnified their higher underwriting losses which resulted into their higher profitability than the private sector general insurance companies.

**Sarkar, A. (2013)**, conducted a research titled, “Performance Assessment of General Insurance Business in India (2003-2013” in his article, measured the profitability of both public and private sectors with suitable ratio analysis. Both the expense ratio and claim ratio of the private sector are comparatively lower than the public sector. In spite of their unfavorable expense ratios and claim ratios; the public sector maintained comparatively higher return on equity in every year under study due to their higher return from investment

**Kamrul & Khanam (2013)**, in their article, evaluated the performance of public sector general insurance companies in Bangladesh, where they demonstrated the performance of Shadaran Bima Corporation (SBC). They suggest that for further continuous growth and development, SBC should take some strategic steps including with adoption of modern techniques

for asset management, follow-up of modern marketing strategies, launching more research & development programs, develop HRD program, relaxing pricing rules and so on.

**Khan (2015)** in her article, evaluated the determinants of profitability of nonlife insurance company in Bangladesh. Specially, this paper examines the impacts of firm particular factors like age of company, size of company, volume of capital, debt ratio, and loss ratio on profitability peroxide by ROA. Profitability is dependent variable while size of company, age of company, volume of capital and leverage and loss ratio are independent variables. This study concludes that a nonlife insurance firm can increase its profitability by increasing its assets. So, firms should find an optimum mix of debt and equity to finance its increase assets.

### **3 Research Gap:**

It is seen from the review of literature, a large number of studies have been conducted on non-life insurance sector at the global level, but at the domestic level i.e. in Bangladesh, few research has been conducted and researchers have mainly emphasized on the performance of the nonlife insurance sector to the view point of individual or single institutional aspects, but no wide research relating to make a comparative study of the public and private firms. Thus, there exists a research gap and this study titled, **“Profitability Analysis of Nonlife Insurance Sectors in Bangladesh – A Comparative Study of Public and Private Firms”** is an attempt to fill this gap.

### **4. Objectives of the Study**

The followings are the objectives of this study.

- To compare the profitability of public sector nonlife insurance in Bangladesh
- To compare the profitability of private sector nonlife insurance in Bangladesh
- To recommend about the improvement of the profitability.



## 5. Methodology

The research methodology used for investigating the comparative profitability of public and private sector nonlife insurance firms in Bangladesh. There are 45 (forty-five) nonlife insurance firms (1 public and 44 private) in Bangladesh. Sadharan Bima Corporation (SBC) is for public sector and based on stratified random sampling method, 9(nine) firms has been selected for the study. The study is mainly based on the secondary data which has been collected from the annual reports of 10 nonlife insurance firms, various journal relating to insurance, websites etc. The data has collected for the years 2003 to 2014(12 years) because, maximum private insurance firms in Bangladesh has started transection from the year 2000. The data was available from 2003 to 2014, so 12 years has taken for the study. So, to analyse the comparative profitability of public and private sector nonlife insurance firms in Bangladesh, only one nationalized (public) nonlife insurance corporation, namely Sadharan Bima Corporation (SBC) and nine (9) private insurance firms, namely ; Bangladesh General Insurance Company (BGIC), Eastland Insurance Company Ltd, Green Delta Insurance Company Ltd, Pragoti Insurance Company ltd, Reliance Insurance company Ltd, Rupali Insurance Company ltd, Prime Insurance Company Ltd, Pioneer Insurance Company Ltd and Agrani Insurance Company Ltd were taken for the study. 9 private firms has been selected based on a stratified random sampling method. Variable of the interest is Market share and there are three subgroups- a) above 8% (high market share) b) between 3 to 7 percent (Medium Market share) c) bellow 3% (Low Market share). 3 Firms has been selected from high market share, another 3 firms from medium market share and rest 3 from low market share. Besides, 4 private firms has established in 1985, 3 firms in 1997 and 2 firms in 2000. The period of the study was from 2003 to 2014. The statistical tools such as mean, stander deviation, correlation, regression and Mann-Whitney test has been used for investigating the comparative profitability of public and private sector nonlife insurance

firms. The IBM SPSS (version 20) statistical software also has been used for the purpose of data analysis.

## 5.1 Parameters Used to Assess Performance

Profitability of the nonlife insurance firms has been examined using the following ratios (Kumar, 2010) (Expressed in percentage form).

**Claim Ratio**= (Net claim incurred to net written premium). The claim ratio is the percentage of claims costs incurred in relation to the premiums earned.

**Expense Ratio**= (Expenses of management to net written premium). The expenses ratio known as management expenses ratio (MER) measures how much of a fund's assets are used for administrative and other operating expenses.

**Underwriting Results Ratio**= (Net written premium minus claim, expenses and increase in unexpired risk reserve to net written premium). It is depicted by taking net premium minus increase in the unexpired risks reserve minus expenses of management minus claim incurred minus commission.

**Investment Income Ratio**= (Investment income to net written premium). Investment income ratio is the ratio of an insurance company's net investment income to it earn premiums.

**Net Retention Ratio**= (Net written premium to gross-direct premium). The retention ratio refers to the percentage of net income that is retained to grow the business rather than being paid out as dividends.

**Return on Equity Ratio**= (Profit after tax to net worth/assets). Return on equity (ROE) is a ratio that provides investors with insight in to how efficiently a company (or more specially its management team) is handling the money that shareholders have contributed to it.

## 6. Hypotheses of the Study

To achieve the specific objectives of the study, the main hypotheses formulated for the present study are as follows:

Ho; there is no significant difference between the profitability of public and private nonlife insurance firms in Bangladesh.

H1; There is a significant difference between the profitability of public and private nonlife insurance firms in Bangladesh.

## 7. Comparative Profitability Analysis of the public and private sector non-life Insurance firms in Bangladesh. (Findings and Analysis)

### Claim Ratio

Claim Ratio is expressed as a percentage of total net claims incurred to net premium underwritten (NWP). This indicator is a good complement to the picture of economics, client value and service quality of the various insurance schemes. Lower claim ratio signifies the efficiency of the risk underwriting team and also a better claims management mechanism. Claim ratio has been calculated based on the tables in Appendix relating to claim charge and net premium.

**Table 1 Claim Ratio of Public and Private Nonlife Insurance Firms.**

**Percentage (%)**

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 40.76  | 16.49                       | 43.34     | 26.90       | 22.79   | 42.32    | 16.95  | 7.81  | 67.37   | 4.02   |
| 2004 | 31.73  | 17.72                       | 80.33     | 22.16       | 40.53   | 34.07    | 24.63  | 31.51 | 63.99   | 12.95  |
| 2005 | 44.25  | 14.45                       | 33.46     | 20.71       | 20.48   | 28.09    | 41.49  | 67.88 | 28.27   | 6.29   |
| 2006 | 49.06  | 12.06                       | 49.46     | 28.30       | 20.75   | 24.18    | 29.43  | 63.16 | 60.24   | 17.03  |

|                                   |              |              |              |              |              |              |              |              |              |              |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 2007                              | 51.68        | 26.55        | 40.41        | 25.94        | 17.08        | 24.20        | 26.69        | 37.91        | 74.34        | 21.74        |
| 2008                              | 47.48        | 27.02        | 47.20        | 18.68        | 11.77        | 22.85        | 31.13        | 45.36        | 31.14        | 28.54        |
| 2009                              | 41.47        | 21.01        | 33.90        | 18.46        | 21.51        | 24.43        | 36.87        | 34.36        | 33.07        | 24.25        |
| 2010                              | 47.56        | 16.41        | 29.13        | 15.25        | 23.30        | 22.28        | 33.12        | 35.17        | 31.90        | 17.13        |
| 2011                              | 32.78        | 17.47        | 69.73        | 14.19        | 12.63        | 28.78        | 31.97        | 18.71        | 25.87        | 13.31        |
| 2012                              | 32.03        | 15.55        | 36.75        | 16.65        | 17.35        | 22.28        | 30.03        | 10.28        | 24.70        | 17.56        |
| 2013                              | 43.94        | 17.12        | 42.18        | 28.29        | 22.73        | 23.74        | 44.18        | 4.22         | 32.36        | 24.93        |
| 2014                              | 42.65        | 23.52        | 76.57        | 28.36        | 24.49        | 18.76        | 36.95        | 6.58         | 34.23        | 18.15        |
| <b>Mean</b>                       | <b>42.11</b> | <b>19.44</b> | <b>48.53</b> | <b>21.99</b> | <b>21.28</b> | <b>26.33</b> | <b>31.95</b> | <b>30.24</b> | <b>42.29</b> | <b>17.15</b> |
| <b>St. D(<math>\sigma</math>)</b> | <b>6.77</b>  | <b>4.23</b>  | <b>17.42</b> | <b>5.39</b>  | <b>7.31</b>  | <b>6.37</b>  | <b>7.43</b>  | <b>21.53</b> | <b>18.35</b> | <b>7.29</b>  |

**Source: Annual Report (2003-2014) of nonlife Insurance Firms mentioned in above table.**

The trend on claim ratios of both the public and private sector non-life insurance firms for the period of 2003 to 2014 has been shown in Table-1.

In table 1 it is seen that SBC showed a maximum average claim ratio of 42.11 Percent which implies public sector claim ratio. Among the private insurance, East land insurance Co showed a maximum average claim ratio of 48.53 percent followed by pioneer and Rupali with respectively percentage of 42.29 percent and 31.95 percent. Prime showed 30.24 Percent, Reliance 26.33 Percent, Pragati, 21.28 Percent, Green delta 21.99 Percent, BGIC 19.44 Percent, and Agrani, 17.15 Percent, Here, noticed that. If we consider individual context, East land is carrying highest claim ratio i.e. 48.46 percent, whereas, SBC is carrying 42.16 Percent claim ratio. The standard deviation value of the public (SBC) is 6.75 and BGIC is 4.23 Eastland is 17.42 , Green Delta is 5.39, Pragati is 7.31, Reliance is 6.37, Rupali is 7.43, Prime is 21.53, Pioneer is 18.35 and Agrani is 7.29 percent which shows that among private insurers, BGIC, Green Delta and Reliance are more consistent than the public sector (SBC) in paying claim to the customer. On the other hand, SBC (Public) is more consistent than Eastland, Pragati, Rupali, Prime, Pioneer and Agrani in paying claim to the customer.

## Expenses Ratio

Expenses ratio is calculated as a percentage of net premium which reflects the percentage of revenue which is being utilized on account of commission and management expenses. This ratio is a pointer of the cost effectiveness and productivity. A higher ratio reflects financial instability of the business as a decrease in revenue may result in losses, whereas lower ratio is an indicator of better operational performance. It becomes important to examine, how far the two sectors non-life insurance industry have been in a position to reduce their operating cost during the study period. Expenses ratio has been calculated based on the tables in Appendix relating to management expenses and net premium.

**Table- 2 Expenses Ratio of Public and Private Nonlife Insurance Firms.**

Percentage (%)

| Year                              | Public       | Private Insurance Companies |              |              |              |              |              |              |              |              |
|-----------------------------------|--------------|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                                   | SBC          | BGIC                        | East Land    | Green Dalta  | Pragati      | Reliance     | Rupali       | Prime        | Pioneer      | Agrani       |
| 2003                              | 23.99        | 93.26                       | 84.86        | 67.99        | 47.80        | 72.38        | 75.91        | 89.69        | 100.92       | 78.89        |
| 2004                              | 20.43        | 92.38                       | 79.18        | 71.14        | 58.82        | 79.64        | 76.33        | 110.25       | 111.96       | 81.04        |
| 2005                              | 18.01        | 96.86                       | 57.00        | 38.16        | 45.61        | 69.60        | 32.79        | 34.07        | 52.21        | 74.18        |
| 2006                              | 14.49        | 71.15                       | 53.35        | 38.01        | 38.30        | 39.44        | 26.11        | 38.34        | 43.89        | 55.67        |
| 2007                              | 10.80        | 62.47                       | 46.93        | 31.88        | 36.88        | 31.77        | 26.61        | 45.30        | 34.40        | 34.34        |
| 2008                              | 10.24        | 71.25                       | 47.71        | 33.38        | 40.67        | 29.10        | 27.49        | 46.37        | 29.00        | 28.07        |
| 2009                              | 9.42         | 43.40                       | 47.14        | 36.07        | 44.44        | 37.09        | 24.93        | 37.03        | 28.90        | 29.14        |
| 2010                              | 11.70        | 53.74                       | 44.12        | 41.28        | 44.20        | 29.48        | 23.27        | 47.13        | 28.70        | 31.75        |
| 2011                              | 11.20        | 47.22                       | 45.95        | 43.15        | 46.60        | 28.91        | 22.89        | 34.33        | 28.37        | 35.25        |
| 2012                              | 7.51         | 51.28                       | 31.30        | 33.27        | 42.07        | 34.59        | 25.01        | 36.91        | 20.71        | 30.84        |
| 2013                              | 8.64         | 61.26                       | 32.19        | 34.09        | 49.52        | 32.91        | 34.68        | 42.54        | 26.65        | 31.93        |
| 2014                              | 8.90         | 64.59                       | 44.45        | 45.58        | 58.26        | 35.79        | 31.24        | 42.83        | 27.46        | 31.22        |
| <b>Mean</b>                       | <b>12.94</b> | <b>67.40</b>                | <b>51.18</b> | <b>42.87</b> | <b>46.09</b> | <b>43.39</b> | <b>35.60</b> | <b>50.39</b> | <b>45.18</b> | <b>45.19</b> |
| <b>St. D(<math>\sigma</math>)</b> | <b>5.21</b>  | <b>18.31</b>                | <b>16.18</b> | <b>13.15</b> | <b>6.89</b>  | <b>18.79</b> | <b>19.27</b> | <b>23.98</b> | <b>29.71</b> | <b>21.09</b> |

Source: Annual Report (2003-2014) of nonlife Insurance Firms mentioned in above table.

The trend on expenses ratios of both the public and private sector non-life insurance firms for the period of 2003 to 2014 has been shown in Table-2

The result shows that average expenses of management ratio of the public sector nonlife firm is 12.94 percent (SBC). Whereas. Among the private sector firms, BGIC showed 67.40 percent, East land 51.18 percent, Prime 50.39 percent, pragati 46.09 percent, pioneer and Agrani 45.18 and 45.19 percent, respectively, Reliance 43.39 percent, Green Delta 42.87 percent, Here, it is clear that, expenses of management of private sector is higher than that of public sector. The standard deviation value of the public (SBC) is 5.21 and BGIC is 18.31, Eastland is 16.18, Green Delta is 13.15, Pragati is 6.89, Reliance is 18.79, Rupali is 19.27, Prime is 23.98, Pioneer is 29.71 and Agrani is 21.09 percent which shows that Public sector(SBC) is more consistent than the private sector (SBC) in case of management expenses.

### Under writing Result Ratio

The under-writing result ratio of a non-life insurance firm is depicted or explained by talking net written premium minus increase in the unexpired risk reserve minus expense of management minus claim incurred minus commission. The under-writing results indicate the performance, whereas it is 16.87 percent, in private sector. It is clear that there was wide variation in the of an insurance firm from core insurance business. The under-writing results ratio has been calculated based on the tables in Appendix relating to net written premium, unexpired risks, and management expenses and claim charge.

**Table: 3 Under-Writing Ratio of Public and Private Nonlife Insurance Firms.**

Percentage (%)

| Year | Public | Private Insurance Companies |           |             |         |          |        |        |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|--------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime  | Pioneer | Agrani |
| 2003 | 27.85  | -44.04                      | -70.58    | -44.60      | -20.71  | -55.57   | -33.12 | -42.57 | -108.35 | -23.11 |
| 2004 | 47.83  | -50.52                      | -89.95    | -43.39      | -49.76  | -54.35   | -41.12 | -84.80 | -116.02 | -34.12 |
| 2005 | 30.35  | -51.38                      | -31.30    | -8.98       | -16.55  | -38.28   | -14.28 | -44.77 | -20.54  | -20.49 |
| 2006 | 32.25  | -24.00                      | -43.03    | -16.80      | -9.09   | -1.84    | 4.01   | -47.06 | -44.23  | -12.74 |

|                                    |              |               |               |               |               |               |               |               |               |              |
|------------------------------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| 2007                               | 28.49        | -27.28        | -27.70        | -8.07         | -4.12         | 3.39          | 6.44          | -29.97        | -49.71        | 4.06         |
| 2008                               | 37.62        | -38.49        | -35.50        | -2.21         | -2.59         | 7.56          | 1.12          | -38.70        | -.40          | 3.26         |
| 2009                               | 42.25        | -5.69         | -21.80        | -4.47         | -16.15        | -1.8          | -2.10         | -21.60        | -2.84         | 6.52         |
| 2010                               | 39.11        | -10.09        | -14.21        | -6.67         | -17.84        | 8.00          | 3.47          | -34.79        | -1.90         | 10.68        |
| 2011                               | 52.71        | -5.39         | -55.98        | -7.61         | -9.97         | -63.45        | 4.99          | 4.51          | 5.38          | 11.46        |
| 2012                               | 41.60        | -6.90         | -8.19         | -0.38         | -12.38        | -83.49        | 4.89          | 12.16         | 2.52          | 11.38        |
| 2013                               | 41.97        | -6.73         | -15.04        | -12.36        | -22.81        | -43.07        | -54.46        | 9.62          | -0.91         | 3.00         |
| 2014                               | 43.96        | -30.2         | -61.08        | -14.89        | -33.13        | -89.68        | -42.37        | 10.56         | -4.37         | 10.22        |
| <b>Mean</b>                        | <b>38.83</b> | <b>-25.04</b> | <b>-39.53</b> | <b>-14.20</b> | <b>-17.92</b> | <b>-34.38</b> | <b>-13.54</b> | <b>-25.61</b> | <b>-24.49</b> | <b>-2.49</b> |
| <b>St. D (<math>\sigma</math>)</b> | <b>7.82</b>  | <b>18.00</b>  | <b>25.25</b>  | <b>14.71</b>  | <b>13.07</b>  | <b>36.12</b>  | <b>22.71</b>  | <b>29.83</b>  | <b>48.39</b>  | <b>15.85</b> |

**Source: Annual Report (2003-2014) of nonlife Insurance Firms mentioned in above table.**

The direction on under-writing result ratios of both the public and private sector non-life insurance firms for the period of 2003 to 2014 has been shown in Table-3. It is clear that the average underwriting results ratio of the public sector firms is 38.83 percent and percent private sector containing an underwriting loss position. Among the private sector firms, East land Insurance company has shown the highest average underwriting loss of (-39.53) percent followed by reliance (-34.38) percent, pioneer (-24.49) percent, Prime (-25.61) percent, BGIC (-25.04) percent, Pragati, (-17.92) percent, Green Delta (-14.20) percent, Rupali (-13.54) percent, and Agrani (-2.49) percent. The standard deviation value of the public (SBC) is 7.82 and BGIC is 18.00, Eastland is 25.25, Green Delta is 14.71, Pragati is 13.07, Reliance is 36.12, Rupali is 22.71, Prime is 29.83, Pioneer is 48.39 and Agrani is 15.85 percent ,Which clearly indicates that the variation in underwriting results of private sector nonlife insurance firms is higher. The main reason for higher under writing losses of private sector is mainly described to higher expenses of management and incurred claim. Their excessive management expresses have been higher due to high underground commission and massive is strength of manpower. On the other hand, public sectors firms get most of their business overseas reinsured to reduce her losses from under writing. Besides all private nonlife insurance firms are getting a portion of public related business equally from public sector. Nevertheless, they (Private firms) are in

underwriting results loss ratio. So, they should minimize their management cost and unethical commission practice for improving their underwriting result.

### Investment Income Ratio

Income from investments creates a significant impact on profitability of an insurance firm. Insurance collect huge amount of money as premium and invest it efficiently to maximize its return. The investment income ratio is determined by investment income to net written premium. This ratio indicates the effectiveness and efficiency of investment decisions. Investment income ratio has been calculated based on the tables in Appendix relating to investment income and net premium.

**Table- 4 Investment Income Ratio of Public and Private Nonlife Insurance Firms.**

Percentage (%)

| Year                               | Public       | Private Insurance Companies |              |              |             |              |              |              |              |              |
|------------------------------------|--------------|-----------------------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|
|                                    | SBC          | BGIC                        | East Land    | Green Dalta  | Pragati     | Reliance     | Rupali       | Prime        | Pioneer      | Agrani       |
| 2003                               | 22.03        | 18.99                       | 23.72        | 25.52        | 11.06       | 18.21        | 10.38        | 15.70        | 38.32        | 10.05        |
| 2004                               | 17.11        | 13.57                       | 40.69        | 23.28        | 10.08       | 15.32        | 9.61         | 16.13        | 35.52        | 10.26        |
| 2005                               | 13.92        | 14.52                       | 41.18        | 21.79        | 13.64       | 14.49        | 12.03        | 16.05        | 36.47        | 18.32        |
| 2006                               | 14.21        | 14.72                       | 29.45        | 26.03        | 12.18       | 14.67        | 8.93         | 22.9         | 32.29        | 26.45        |
| 2007                               | 14.78        | 30.43                       | 43.25        | 41.33        | 21.84       | 11.98        | 8.07         | 40.49        | 28.52        | 20.12        |
| 2008                               | 14.33        | 31.15                       | 36.77        | 40.38        | 16.42       | 13.48        | 7.89         | 32.15        | 17.46        | 20.05        |
| 2009                               | 13.90        | 20.22                       | 33.02        | 30.85        | 10.04       | 26.70        | 8.56         | 58.02        | 12.40        | 16.10        |
| 2010                               | 19.96        | 46.61                       | 50.12        | 74.91        | 16.26       | 24.87        | 24.85        | 90.76        | 22.07        | 20.93        |
| 2011                               | 19.56        | 29.28                       | 65.05        | 15.70        | 1.29        | 21.86        | 9.62         | 21.52        | 17.14        | 14.88        |
| 2012                               | 16.74        | 18.61                       | 35.05        | 11.16        | -9.67       | 25.56        | 18.13        | 13.33        | 13.76        | 12.97        |
| 2013                               | 18.94        | 25.23                       | 40.21        | 15.41        | 2.43        | 32.68        | 28.88        | 21.21        | 10.84        | 18.06        |
| 2014                               | 25.87        | 36.24                       | 34.02        | 18.05        | 2.83        | 32.83        | 26.87        | 20.03        | 10.46        | 16.67        |
| <b>Mean</b>                        | <b>17.61</b> | <b>24.96</b>                | <b>39.37</b> | <b>28.70</b> | <b>9.03</b> | <b>21.05</b> | <b>14.48</b> | <b>30.69</b> | <b>22.93</b> | <b>17.07</b> |
| <b>St. D (<math>\sigma</math>)</b> | <b>3.78</b>  | <b>10.11</b>                | <b>10.58</b> | <b>17.31</b> | <b>8.52</b> | <b>7.42</b>  | <b>7.99</b>  | <b>22.87</b> | <b>10.69</b> | <b>4.69</b>  |

Source: Annual Report (2003-2014) of nonlife Insurance Firms mentioned in above table.



The tendency on investment income ratios of both the public and private sector non-life insurance firms for the period of 2003 to 2014 has been shown in Table-4. The result indicates that the average investment income ratio of public sector is 17.61 percent and among the private sector insurers, East land exhibits the highest average investment income ratio of 39.37 percent followed by Green Delta 28.70 percent, BGIC 24.96 percent, Pioneer 22.93 percent, Reliance 21.05 percent, Agrani 17.07 percent, Rupali 14.48 percent, and Pragati 9.03 percent. The standard deviation value of the public (SBC) is 3.78 and BGIC is 10.11, Eastland is 10.58, Green Delta is 17.31, Pragati is 8.52, Reliance is 7.42, Rupali is 7.99, Prime is 22.87, Pioneer is 10.69 and Agrani is 4.69 percent, Which clearly indicates that Public sector (SBC) is more consistent than the private sector (SBC) in case of investment income ratio and which explains more variation in the investment income ratio of private sector.

### Net Retention Ratio

Net retention ratio signifies an insurer's ability to bear risk. It can be defined as net written premium divided by gross-direct premium. Net retention ratio has been calculated based on the tables in Appendix relating to gross premium and net premium. Direct Insurance firms are required to cede a minimum of (50%) of their re-insurable business to national re insurer (SBC) and rest of the 50% either with SBC or in abroad as per Insurance Corporation Act -1990 (Amendment). In another sense, we can say, private insurance firms are bound to cede 50% of their re-insurable business to public sector only one nationalized insurance firm or corporation, name as Sadharan Bima Corporation.

**Table-5 Net Retention Ratio of Public and Private Nonlife Insurance Firms.**

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 39.22  | 52.85                       | 62.10     | 44.80       | 48.19   | 38.09    | 66.98  | 71.38 | 51.29   | 81.78  |
| 2004 | 53.66  | 57.30                       | 61.08     | 45.25       | 46.10   | 42.01    | 64.01  | 67.14 | 46.88   | 80.53  |
| 2005 | 54.73  | 49.78                       | 63.50     | 42.27       | 43.49   | 39.65    | 60.75  | 66.95 | 43.23   | 78.46  |
| 2006 | 52.79  | 52.85                       | 57.46     | 42.90       | 43.65   | 39.42    | 58.29  | 67.80 | 48.12   | 61.08  |

|                                    |              |              |              |              |              |              |              |              |              |              |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 2007                               | 56.54        | 43.08        | 55.68        | 40.65        | 42.59        | 42.74        | 68.71        | 70.17        | 50.70        | 65.20        |
| 2008                               | 56.30        | 37.98        | 56.02        | 44.78        | 42.16        | 41.14        | 66.47        | 68.65        | 48.53        | 61.53        |
| 2009                               | 58.96        | 52.43        | 54.80        | 45.36        | 41.42        | 41.49        | 64.21        | 63.03        | 43.92        | 57.31        |
| 2010                               | 55.38        | 64.61        | 55.90        | 38.48        | 44.68        | 50.23        | 66.54        | 51.42        | 42.42        | 54.17        |
| 2011                               | 57.07        | 64.79        | 55.28        | 36.65        | 41.96        | 51.43        | 65.95        | 66.64        | 45.20        | 49.15        |
| 2012                               | 63.98        | 59.76        | 53.36        | 46.57        | 51.16        | 43.13        | 64.28        | 60.49        | 46.57        | 61.80        |
| 2013                               | 60.27        | 54.31        | 54.28        | 50.39        | 49.56        | 42.97        | 59.56        | 45.76        | 46.72        | 56.41        |
| 2014                               | 65.86        | 50.56        | 51.06        | 45.58        | 40.20        | 44.79        | 59.21        | 54.65        | 46.74        | 53.40        |
| <b>Mean</b>                        | <b>56.23</b> | <b>53.35</b> | <b>56.71</b> | <b>43.64</b> | <b>44.59</b> | <b>43.09</b> | <b>63.74</b> | <b>62.84</b> | <b>46.69</b> | <b>63.40</b> |
| <b>St. D (<math>\sigma</math>)</b> | <b>6.66</b>  | <b>7.85</b>  | <b>3.71</b>  | <b>3.72</b>  | <b>3.45</b>  | <b>4.06</b>  | <b>3.47</b>  | <b>8.14</b>  | <b>2.74</b>  | <b>11.06</b> |

**Source: Annual Report (2003-2014) of nonlife Insurance Firms mentioned in above table.**

The trends of net retention ratio of all the public and private sector nonlife insurance firms from the years 2003 to 2014 in Table-5. The average net retention ratio of the public insurers during the period of the study is 56.23 percent, whereas, among the private insurers, Agrani has exhibited the highest average net retention ratio of 63.40 percent followed by Rupali with a percentage of 63.74 percent prime 62.84 percent. East land 56.71 percent, BGIC 53.35 percent, Pioneer 46.69 percent, pragati 44.59 percent, Green Delta 43.09 percent, percent, Green Delta 43.64 percent and Reliance 43.64 percent. The standard deviation value of the public (SBC) is 6.66 and BGIC is 7.85, Eastland is 3.71, Green Delta is 3.72, Pragati is 3.45, Reliance is 4.06, Rupali is 3.47, Prime is 8.14, Pioneer is 2.74 and Agrani is 11.06 percent, Which clearly indicates that Public sector (SBC) is more consistent than BGIC, Prime and Agrani and others private firms like Eastland, Green Delta, Pragati, Reliance, Rupali and Pioneer are more consistent than public sector (SBC) in case of net retention ratio.

### **Return on Equity Ratio**

Return on Equity is the most popular measure of profitability of a business concern irrespective of its nature of business. It measures the return available for according to owner's capital. It indicates how well the resources of owners have been used (Anthony and Reece, 1995). Return on Equity ratio has been calculated based on the tables in Appendix relating to net worth and profit after taxes

**Table-6 Return on Equity Ratio of Public and Private Nonlife Insurance Firms.**

| Year                               | Percentage (%) |                             |             |             |             |             |             |             |             |             |
|------------------------------------|----------------|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                    | Public         | Private Insurance Companies |             |             |             |             |             |             |             |             |
|                                    | SBC            | BGIC                        | East Land   | Green Delta | Pragati     | Reliance    | Rupali      | Prime       | Pioneer     | Agrani      |
| 2003                               | 3.76           | 3.41                        | 3.82        | 3.97        | 3.70        | 3.04        | 3.60        | 4.85        | 7.84        | 2.82        |
| 2004                               | 3.55           | 3.01                        | 7.89        | 2.97        | 3.97        | 4.86        | 4.35        | 0           | 6.32        | 2.54        |
| 2005                               | 3.73           | 3.72                        | 10.28       | 3.80        | 5.59        | 4.92        | 4.35        | 4.14        | 6.72        | 2.97        |
| 2006                               | 3.60           | 4.01                        | 6.17        | 3.91        | 6.10        | 4.88        | 5.67        | 2.70        | 6.18        | 5.74        |
| 2007                               | 5.66           | 7.13                        | 11.05       | 9.60        | 5.82        | 5.53        | 4.82        | 4.39        | 7.31        | 4.82        |
| 2008                               | 5.89           | 7.00                        | 9.26        | 8.53        | 4.43        | 7.35        | 5.36        | 4.27        | 9.10        | 4.77        |
| 2009                               | 7.41           | 4.30                        | 9.40        | 6.77        | 2.36        | 6.36        | 3.92        | 8.87        | 10.01       | 6.39        |
| 2010                               | 6.96           | 8.63                        | 14.01       | 10.59       | 3.54        | 7.60        | 9.99        | 12.80       | 11.05       | 8.19        |
| 2011                               | 9.44           | 6.14                        | 15.00       | 3.00        | 2.30        | 4.86        | 5.48        | 6.55        | 11.46       | 6.87        |
| 2012                               | 9.28           | 5.94                        | 9.90        | 4.26        | 1.36        | 4.62        | 6.18        | 7.86        | 11.68       | 8.24        |
| 2013                               | 9.20           | 4.73                        | 11.67       | 3.94        | 2.26        | 5.77        | 5.20        | 8.30        | 10.49       | 7.45        |
| 2014                               | 8.57           | 4.51                        | 8.85        | 3.62        | 1.33        | 5.20        | 5.23        | 8.24        | 8.71        | 7.50        |
| <b>Mean</b>                        | <b>6.42</b>    | <b>5.21</b>                 | <b>9.77</b> | <b>5.41</b> | <b>3.56</b> | <b>5.41</b> | <b>5.34</b> | <b>6.08</b> | <b>8.90</b> | <b>5.69</b> |
| <b>St. D (<math>\sigma</math>)</b> | <b>2.37</b>    | <b>1.73</b>                 | <b>3.07</b> | <b>2.71</b> | <b>1.68</b> | <b>1.24</b> | <b>1.64</b> | <b>3.38</b> | <b>2.02</b> | <b>2.09</b> |

Source: Annual Report (2003-2014) of nonlife Insurance Firms mentioned in above table.

A pen picture on return on Equity of both the public and private sectors nonlife insurance firms for the period 2003 to 2014 has been shown in Table-6. The analysis provides that the average return on equity of the public sector is 6.66 percent and whereas, among the private sector insurer's. East land achieved the highest average return on equity of 9.77 percent followed by pioneer 8.90 percent, Prime 6.08 percent, Agrani 5.69 percent, Green Delta 5.41 percent, BGIC 5.21 percent, Reliance 5.41 percent, Rupali, 5.34 percent and Pragati 3.56 percent. The standard deviation value of the public (SBC) is 2.37 and BGIC is 1.73, Eastland is 3.07, Green Delta is 2.71, Pragati is 1.68, Reliance is 1.24, Rupali is 1.64, Prime is 3.38, Pioneer is 2.02 and Agrani is 2.09 percent, Which clearly indicates that Public sector (SBC) is more consistent than Eastland and Prime and others private firms like BGIC, Green Delta,

Pragati, Reliance, Rupali Pioneer and Agrani are more consistent than public sector (SBC) in case of return on equity ratio.

### 7.1 Test of Hypothesis

Mann-Whitney Test has been used for test of hypothesis. It is a nonparametric test that is used to compare two sample means that come from the same population and used to test whether two sample means are equal or not. Usually this test is used when data is ordinal.

#### Test of Significance

| Test               | Ratio     | Z-value | Asymp.sig (2 tailed) |
|--------------------|-----------|---------|----------------------|
| Mann- Whitney test | ROE Ratio | -.325   | 0.745                |

Source: Author's own calculation.

According to the above table, Mann Whitney test has been calculated based on the table relating to return on equity ratio (Table-6.). The P-value is 0.745 which is  $>.05$  for the return on equity of public and private nonlife insurance firms. This test shows that there is no significant difference between return on equity of the public and private sector nonlife insurance firms in Bangladesh. Therefore, the study accepted the null hypothesis and rejected alternative hypothesis

### 7.2 Correlation analysis of the Non-life Insurance firms.

Correlation analysis involves the represents the linear relationship between two or more variables. The correlation matrices for both the public and private sector non-life insurance firms are given in Tables 07 and 08 respectively. The analysis was performed with the help of statistical software called SPSS verison-20.

**Table -07**

| Spearman's correlation of Public sector non-life Insurance |               |       |         |               |                   |               |
|--|---------------|-------|---------|---------------|-------------------|---------------|
|  | Return Equity | Claim | Expense | Under writing | Investment Income | Net Retention |
| Return Equity  | 1.00          |       |         |               |                   |               |
| Claim  | -.140         | 1.00  |         |               |                   |               |

|                   |                       |                 |                   |                |                |      |
|-------------------|-----------------------|-----------------|-------------------|----------------|----------------|------|
|                   | (.665)                |                 |                   |                |                |      |
| Expense           | -<br>.768**<br>(.004) | .110<br>(.734)  | 1.00              |                |                |      |
| Under writing     | .559<br>(.059)        | -.612<br>(.034) | -.412<br>(.183)   | 1.00           |                |      |
| Investment Income | .477<br>(.117)        | -.305<br>(.335) | .005<br>(.987)    | .306<br>(.334) | 1.00           |      |
| Net Retention     | .791**<br>(.002)      | -.189<br>(.557) | -.931**<br>(.000) | .498<br>(.498) | .174<br>(.589) | 1.00 |

**Note:** The figures given in parentheses represent the P- values

\*\* Significant at the .01 Level (2-tailed)

\* Significant at the .05 level (2 tailed)

**Source: Author's own.**

Table-07 present the correlation between dependent variable return on Equity (ROE) with others independent variables of public sector non-life insurance firms during the period of 2003 to 2014. It can be seen from the table that under writing result ratio, expense ratio and Net retention ratio have a significant correlation with return on Equity (ROE) and the coefficients are .559, (-.768) and .791 respectively. Another two independent variables have insignificant correlation with return on equity. Few independent variables have also significant correlation with one another during the study period, such as expenses of management and claim ratio have a negative correlation with underwriting results and their coefficients are (-.412) and (-.612) respectively. Under writing result ratio has a positive correlation with investment income ratio and coefficient is .306. Investment income has a positive correlation with Net- retention and coefficient is .174

**Table-08**

**Spearman's Correlations of Private Sector Non-Life Insurance firms**

|  |               |       |         |               |                   |               |
|--|---------------|-------|---------|---------------|-------------------|---------------|
|  | Return Equity | Claim | Expense | Under writing | Investment Income | Net Retention |
|--|---------------|-------|---------|---------------|-------------------|---------------|

|                   |                   |                  |                   |                  |                 |      |
|-------------------|-------------------|------------------|-------------------|------------------|-----------------|------|
| Return Equity     | 1.00              |                  |                   |                  |                 |      |
| Claim             | -.553<br>(.062)   | 1.00             |                   |                  |                 |      |
| Expense           | -.889**<br>(.000) | .771**<br>(.003) | 1.00              |                  |                 |      |
| Under writing     | -.886**<br>(.000) | -.611<br>(.035)  | -.819**<br>(.001) | 1.00             |                 |      |
| Investment Income | .646*<br>(.023)   | -.128<br>(.692)  | -.374<br>(.231)   | .779**<br>(.003) | 1.00            |      |
| Net Retention     | -.377<br>(.228)   | .119<br>(.713)   | .436<br>(.157)    | -.347<br>(.269)  | -.391<br>(.209) | 1.00 |

**Note:** The figures given in parentheses represent the P- values

\*\*Significant at the .01 Level (2-tailed)

\*Significant at the .05 level (2 tailed)

**Source:** Author's own.

Table-08 highlights the correlation between the dependent variable, viz Return on Equity (ROE) with others independent variables of the 9 (nine) private sector non-life insurance firms during the period of 2003 to 2014. It can be seen from the table that three independent variables, namely, investment, underwriting and expenses of management have significant correlation with return on equity and coefficient are .646, .886 and (-.889) respectively. Claim and net retention have an insignificant correlation with ROE and the coefficients are (-.553) and (-.377) respectively. Few independent variables have also significant correlation one with another, such as claim ratio has significant positive correlation with expense of management ratio and the correlation is .771, Expense of management has a significant negative correlation with investment income ratio and correlation is (-.819), Underwriting result has significant positive correlation with investment income correlation with investment income ratio and coefficient is .779 and investment income ratio has significant negative correlation with net retention and coefficient is -.391.

### 7.3 Multiple Regression Analysis

Multiple regression analysis used to look for different combination of variables that explain a variation in profitability for non-life insurance firms in Bangladesh. The analysis was performed with the help of statistical software called SPSS version-20.

**Table- 09**  
**Multiple Regression Analysis of Public Sector Non-Life Insurance during the period of 2003 to 2014**

| Intercept<br>(constant. a) | Unstandardized coefficient (b) |                            |                               | R    | R <sub>2</sub> | Adjusted<br>R <sub>2</sub> | F-<br>Change | Sig-F-<br>Change |
|----------------------------|--------------------------------|----------------------------|-------------------------------|------|----------------|----------------------------|--------------|------------------|
|                            | Claim<br>ratio                 | Expense<br>ratio           | Investment<br>Income<br>ratio |      |                |                            |              |                  |
| 8.810<br>(3.599)<br>.007*  | -.051<br>(-1.278)<br>.237*     | -.364<br>(-7.071)<br>.000* | .269<br>(3.837)<br>.005*      | .945 | .893           | .852                       | 22.161       | .000             |

**Note:** The figures given in parentheses represent the 't' values and \* indicates P-values.

\*Significant at 5 percent level.

The results of multiple regression analysis for public sector non-life insurance for the period 2003 to 2014 are given in the above table. The analysis reveals Claim ratio, Expense ratio and investment income to net written premium entered the regression model which explaining 85.2% variation in return on equity with significant regression coefficient -.051, -.364 and .269 respectively i.e. one unit increase in claim and expenses to NWP leads to (-.051), (-.364) unit decrease in return on equity and one unit increase in investment income to NWP leads to .269 unit increase in return on equity. The regression coefficients (-.364) and .269 are statistically significant and coefficient (-.051) is statistically insignificant. The multiple correlation coefficient of between dependent and independent variable ROE and Claim, Expense and Investment is .945 indicating profitability was highly influence by CR, ER and IR in public sector. Thus, the multivariate regression analysis for the period 2003 to 2014 concludes as follows.

$$Y_1 = -8.810 - .051(X_1) - .364(X_2) + .269(X_3)$$

**Table- 10**  
**Multiple Regression Analysis of the Private sector nonlife Insurance firms during period 2003 to 2014**

| Intercept<br>(constant.<br>a) | Unstandardized coefficient (b) |                            |                               | R    | R2   | Adjusted<br>R2 | F-<br>Change<br>e | Sig-F-<br>Change |
|-------------------------------|--------------------------------|----------------------------|-------------------------------|------|------|----------------|-------------------|------------------|
|                               | Claim<br>ratio                 | Expense<br>ratio           | Investment<br>Income<br>ratio |      |      |                |                   |                  |
| 10.579<br>(3.321)<br>.011*    | -.057<br>(-.572)<br>.583*      | -.064<br>(-2.372)<br>.045* | .017<br>(.254)<br>.806*       | .764 | .584 | .428           | 3.749             | .060             |
|                               |                                |                            |                               |      |      |                |                   |                  |

**Note:** The figures given in parentheses represent the 't' values and \* indicates P-values

\* Significant at 5 percent level.

The results of multiple regression analysis for private sector non-life insurance for the period 2003 to 2014 are given in the above table. The analysis reveals Claim ratio, Expense ratio and investment income to net written premium entered the regression model which explaining 42.8% variation in return on equity with significant regression coefficient (-.057), (-.064) and .017 respectively i.e. one unit increase in claim and expenses to NWP leads to (-.057), (-.064) unit decrease in return on equity and one unit increase in investment income to NWP leads to .017 unit increase in return on equity. The regression coefficient (-.064) relating to expenses is statistically significant and coefficients (-.057) and .017 are statistically insignificant. The multiple correlation coefficient of between dependent and independent variable ROE and Claim, Expense and Investment is .764 indicating profitability was highly influence by CR, ER and IR in private sector. Thus, the multiple regression analysis for the period 2003 to 2014 concludes as follows.

$$Y_1 = 10.579 - .057(X_1) - .064(X_2) + .017(X_3)$$

### 8. Comparative Regression Analysis of Public and Private Nonlife Insurance sector

In Table 09 and 10, an attempt has been made to examine the combined impact of some selected factors on the profitability of the public and private sectors of nonlife insurance respectively.



Accordingly, multiple correlation and multiple regression techniques have been applied to study the joint influence of the selected ratios, namely Claim Ratio (CR), Expense Ratio (ER), & Investment Ratio (IR) on Return on Equity (ROE) and regression coefficients have been tested with 't' test. For this purpose, CR, ER&IR have been considered as the independent variables and ROE has been used as the dependent variable. The regression model used in this analysis is  $ROE = a + x_1 CR + x_2 ER + x_3 IR$  where a, x1, x2, x3 are the parameters of the ROE line. The result provides the following equations:

$$ROE = -8.810 - .051 CR - .364 ER + .269 IR \text{ (Public Sector)}$$

$$ROE = 10.579 - .057 CR - .064 ER + .017 IR \text{ (Private Sector)}$$

It is observed that when CR is increased by one unit; the ROE decreased by .051 units and .572 units for public and private sector respectively. Both the regression coefficients are statistically insignificant. This indicates the variability in claim ratios of both sectors since the strategies adopted by the insurers in claim management. When ER is increase by one unit; the ROE decreased by .364 units and .064 units for the public and private sector respectively. Both the regression coefficients are statistically significant. Again, an increase in IR by one unit favorably enhances the ROE of public sector by .269 units which is statistically significant whereas the regression coefficient of IR (.017) in private sector is insignificant. The multiple correlation coefficient between the dependent variable ROE and independent variables CR, ER & IR is .945 & .764 for public and private sector respectively. It indicates that the profitability was highly influenced by CR, ER, & IR in the public sector than private. Again, from the value of R<sup>2</sup> it is also evident that 89.3% of the variation in ROE was accounted by the joint variation in CR, ER, & IR of the public sector whereas in the private sector it is only 58.4%

## 9. Summary of Findings

The insurance industry of Bangladesh has started to disclose the potential after the process of privatization on the basis of Insurance Corporation (Amendment) Ordinance, 1984 with an aim of creating a more sustainable and perfect financial line appropriate for the market economy of Bangladesh. The Government of that time felt that in order to introduce quality service and

expanding of the insurance market, this sector should be opened up to perfect competition. It was also a demand from the business community of Bangladesh. Before 1984, there was a monopoly non-life insurance market under the control of public sector non-life Insurance Corporation.

The study brings out that the private sector non-life insurance firms showed a lower claim expenses as the average claim ratio of public sector was 42.11 percent and that of the private sector was 28.83 percent which indicate that claim management of private sector is better than public sector. The average expenses ratio of the public sector and private sector was 12.94 percent and 47.41 percent respectively. A closer investigation of the management portfolio and personal communication with officials and insured of private sector shows that the higher expenses ratio of private sector is mainly huge commission on premium, high manpower and official expenses are liable. But the public sector follows the rules of government relating to the budgetary control and time to time the instruction of the government. Public sector cannot incur any expenses out of fixed budget.

The investment income of the private sector non-life insurance firms is higher than that of the public sector. The average investment income ratio of public and private sector are 17.61 percent and 23.00 percent respectively. The public sector is much lesser than private sector. This is mainly ascribed to the reason that private sector firms entered in to stock exchange market and collected huge amount of fund from IPO procedure. But, in the case of public sector it is not allowed as per the Insurance Corporation Act- 1973. The average Under-writing result ratio of public and private non-life insurance firms are 38.83% and (-25.75%) respectively. Private firms are indicating an underwriting loss ratio. The average net retention ratio of public and private sector is 56.23 % and 53.50% respectively. Normally, public sector's retain power is determined by government and has a well financial base which bring capability to retain more portfolio and the private sector is financially not rich so, them retain capacity is low and depend on reinsurance arrangement. The average Return on equity ratio of public and private sector non-life insurance

firms are 6.42% and 6.25% respectively. The P-value in Mann-Whitney test is more than  $>.05$ , which indicates that there was no significant difference between the return on equity ratio of public & private sector. So, Null hypothesis is accepted and alternative hypothesis is rejected.

The Spearman correlation analysis during the period under study highlights that the expenses ratio of public sector was negatively correlated (-.768) with return on equity which was significant at 1 percent level. Net retention ratio also positively correlated .791 with return on equity which was significant at 1 percent level. The correlation analysis of the private sector shows that expenses ratio was negatively correlated (-.889) with return on equity which was significant at 1 percent level. Underwriting result ratio was positively correlated .886 which was significant at 1 percent level. Investment income ratio was positively correlated .646 which was significant at 5 percent level.

The regression analysis of the public sector non-life insurance indicates that claim, expenses and investment income ratio (adjusted  $R^2=0.852$ ) explained 85.2 percent variation in return on equity, whereas in the private sector non-life insurance firms indicated claim, expenses and investment income ratio (adjusted  $R^2=0.428$ ) explained 42.8 percent variation in return on equity. The regression reported that claim, expenses and investment income have a significant effect on return on equity. The significant variation in return on equity is due to CR, ER, and IR of both the public & private insurers.

## 10. Conclusion and Recommendations

It has been established from this study that, if we compare the profitability between public & private sector, it is seen that there is no significant difference between two. But, public sector is carrying slight higher profitability than private sector. There is a reason that, low management expense ratio of public sector indemnified their high claim ratio and low investment income ratios which resulted in to higher profitability. On the other hand, low claim ratio and high investment income ratio of private sector indemnified their high management expenses ratios which resulted

into a reasonable profitability near to public sector. On the contrary, in spite of their unfavorable claim and investment ratio, the public sector maintained comparatively & light higher return on equity under study, due to their lower management expense. It is high time for public sector to further amendment of “Insurance Corporation (Amendment) Act-1990 for ensuring 100% public property related business and also to introduce commission for procuring private insurance business which will bring a better profitability.

### **Recommendations of the Study**

- The comparative profitability of public and private sector non-life insurance firms shows that the main reason for the higher profitability of the public insurers is their low management expenses. The lower management expenses of the public sector non-life insurance have indemnified their high claim ratios and low investment income ratios. But, the range of higher profitability is very low, the public sector non-life insurance firm should focus on claim management team and improve the investment portfolio.
- The private sector non-life insurance firms are carrying a profitability ratio near to public sector. The main reason for that the lower claim ratios and higher investment income have indemnified their high management expenses. So, private sector should focus on to reduce management expenses for improving profitability.
- The public sector should increase their investment portfolio and build up an efficient claim management team for improving income from investment and reducing claim ratio respectively. The private sector should reduce their management expense by using modern technological logistics support for reducing expense ratio which will bring high return on equity.
- The public sector has shown higher claim ratio because, this sector got a huge amount of business from motor and also a weak claim management. So, to enhance the profitability the

public sector should focus on other portfolios like marine, engineering, personal accident etc. It may decline their claim ratio.

- The net retention of private sector is low. So, this sector should bring more capital to improve net retention, which increase risk bearing capacity.

### **Future Area of the study**

In existing study, a step has been taken to compare the financial performance of the public and private sector nonlife insurance firms in Bangladesh. But there is a feasible scope for future research.

1. The existing study has ascertained the profitability of the public and private sector nonlife insurance firms in Bangladesh. Research can be proceeding in future to find out service quality of nonlife insurance firms.
2. The present study has focused only on comparative profitability of public and private sector nonlife insurance firms in Bangladesh. Future study can be hold to analyse the comparative profitability of both life and nonlife insurance firms in Bangladesh.
3. This research has point out only on comparative profitability of nonlife insurance firms within Bangladesh. Future study can be made to compare inter countries (Bangladesh and India) profitability of nonlife insurance firms.

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## Appendix

### Gross Director Premium (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 305.71 | 21.91                       | 13.3      | 43.03       | 46.87   | 44.97    | 18.84  | 16.32 | 14.7    | 7.3    |
| 2004 | 309.9  | 23.14                       | 15.65     | 51.53       | 50.77   | 49.22    | 21.12  | 13.94 | 17.83   | 7.86   |

|      |        |       |       |        |         |        |       |       |        |       |
|------|--------|-------|-------|--------|---------|--------|-------|-------|--------|-------|
| 2005 | 356.27 | 27.52 | 20    | 63.16  | 63.2    | 62.64  | 24.08 | 11.44 | 24.54  | 11.75 |
| 2006 | 395.85 | 28.53 | 26    | 76.27  | 69.54   | 74.34  | 29.95 | 10.81 | 30.11  | 11.82 |
| 2007 | 455.74 | 31.73 | 31.68 | 110.93 | 80.27   | 82.75  | 39.09 | 12.74 | 38.52  | 15.09 |
| 2008 | 501.34 | 35.36 | 35.09 | 140.04 | 97.9    | 110.15 | 45.52 | 14.45 | 66.55  | 17.42 |
| 2009 | 540.61 | 36.12 | 39.67 | 160.16 | 103.58  | 103.68 | 50.21 | 15.42 | 89.54  | 19.28 |
| 2010 | 574.52 | 42.33 | 48.56 | 200.13 | 106.22  | 123.03 | 61.79 | 20.01 | 125.23 | 25.75 |
| 2011 | 601.73 | 50.33 | 55.02 | 235.15 | 113.72  | 142.2  | 75.63 | 30.55 | 158.96 | 28.56 |
| 2012 | 800.52 | 59.15 | 65.01 | 260.32 | 115.12  | 148.62 | 74.62 | 44.02 | 170.12 | 26.44 |
| 2013 | 796.03 | 61.51 | 70.04 | 261.34 | 1269.91 | 163.88 | 68.25 | 54.49 | 187.49 | 26.59 |
| 2014 | 800.89 | 63.56 | 70.05 | 268.14 | 138.78  | 202.67 | 74.53 | 55.05 | 213.54 | 30.22 |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Net Annual Premium (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 119.92 | 11.58                       | 8.26      | 19.28       | 22.59   | 17.13    | 12.62  | 11.65 | 7.54    | 5.97   |
| 2004 | 166.3  | 13.26                       | 9.56      | 23.32       | 23.41   | 20.68    | 13.52  | 9.36  | 8.36    | 6.33   |
| 2005 | 195    | 13.7                        | 12.7      | 26.7        | 27.49   | 24.84    | 14.63  | 7.66  | 10.61   | 9.22   |
| 2006 | 209    | 15.08                       | 14.94     | 32.72       | 30.36   | 29.31    | 17.46  | 7.33  | 14.49   | 7.22   |
| 2007 | 257.69 | 13.67                       | 17.64     | 45.1        | 34.19   | 35.37    | 26.86  | 8.94  | 19.53   | 9.84   |
| 2008 | 282.26 | 13.43                       | 19.66     | 62.72       | 41.28   | 45.32    | 30.26  | 9.92  | 32.3    | 10.72  |
| 2009 | 318.77 | 18.94                       | 21.74     | 72.66       | 42.91   | 43.02    | 32.24  | 9.72  | 39.33   | 11.05  |
| 2010 | 318.2  | 27.35                       | 27.15     | 77.03       | 47.46   | 61.8     | 41.12  | 10.29 | 53.13   | 13.95  |
| 2011 | 343.44 | 32.61                       | 30.42     | 86.2        | 47.72   | 73.14    | 49.88  | .     | 71.85   | 14.04  |
| 2012 | 512.25 | 35.35                       | 34.69     | 121.25      | 58.9    | 64.11    | 47.97  | 26.63 | 79.24   | 16.34  |
| 2013 | 479.83 | 33.41                       | 38.02     | 131.69      | 62.9    | 70.42    | 40.65  | 24.94 | 87.6    | 15     |
| 2014 | 527.48 | 32.14                       | 35.77     | 122.22      | 55.8    | 90.79    | 44.13  | 30.09 | 99.82   | 16.14  |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms

### Claim charge (Taka in crore )

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 48.89  | 1.91                        | 3.58      | 5.19        | 5.15    | 7.25     | 2.14   | 0.91  | 5.08    | 0.24   |
| 2004 | 52.77  | 2.35                        | 7.68      | 5.17        | 9.49    | 7.047    | 3.33   | 2.95  | 5.35    | 0.82   |
| 2005 | 86.29  | 1.98                        | 4.25      | 5.53        | 5.63    | 6.98     | 6.07   | 5.2   | 3       | 0.58   |
| 2006 | 102.54 | 1.82                        | 7.39      | 9.26        | 6.3     | 7.09     | 5.14   | 4.63  | 8.73    | 1.23   |



|      |        |      |       |       |       |       |       |      |       |      |
|------|--------|------|-------|-------|-------|-------|-------|------|-------|------|
| 2007 | 133.19 | 3.36 | 7.13  | 11.7  | 5.84  | 8.56  | 7.17  | 3.39 | 14.52 | 2.14 |
| 2008 | 134.03 | 3.63 | 9.28  | 11.72 | 4.86  | 10.36 | 9.42  | 4.5  | 10.06 | 3.06 |
| 2009 | 132.22 | 3.98 | 7.37  | 13.42 | 9.23  | 10.51 | 11.89 | 3.34 | 13.01 | 2.68 |
| 2010 | 151.34 | 4.49 | 7.91  | 11.75 | 11.06 | 13.77 | 13.62 | 3.62 | 16.95 | 2.39 |
| 2011 | 112.58 | 5.7  | 21.2  | 12.24 | 6.03  | 15.2  | 15.95 | 3.81 | 18.59 | 1.87 |
| 2012 | 164.11 | 5.5  | 12.75 | 20.2  | 10.22 | 14.29 | 14.41 | 2.74 | 19.58 | 2.87 |
| 2013 | 210.84 | 5.72 | 16.04 | 37.26 | 14.3  | 16.72 | 17.96 | 1.18 | 28.35 | 3.74 |
| 2014 | 224.98 | 7.56 | 27.39 | 34.67 | 13.67 | 17.04 | 16.31 | 1.98 | 34.17 | 2.93 |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Management Expenses (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 28.78  | 10.8                        | 7.01      | 13.11       | 10.8    | 12.4     | 9.58   | 10.45 | 7.61    | 4.71   |
| 2004 | 33.98  | 12.25                       | 7.57      | 16.59       | 13.77   | 16.47    | 10.32  | 10.32 | 9.36    | 5.13   |
| 2005 | 35.12  | 13.27                       | 7.24      | 10.19       | 12.54   | 17.29    | 4.79   | 2.61  | 5.54    | 6.84   |
| 2006 | 30.29  | 10.73                       | 7.95      | 12.44       | 11.63   | 11.56    | 4.56   | 2.84  | 6.36    | 4.02   |
| 2007 | 27.85  | 8.54                        | 8.28      | 14.38       | 12.61   | 11.24    | 7.15   | 4.05  | 6.72    | 3.38   |
| 2008 | 28.93  | 9.57                        | 9.38      | 20.94       | 16.79   | 13.19    | 8.32   | 4.6   | 9.37    | 3.01   |
| 2009 | 30.03  | 8.22                        | 10.258    | 26.17       | 19.07   | 15.96    | 8.04   | 3.6   | 11.37   | 3.22   |
| 2010 | 37.25  | 14.7                        | 11.98     | 31.8        | 20.98   | 18.22    | 9.57   | 4.85  | 15.25   | 4.43   |
| 2011 | 39.24  | 15.4                        | 13.98     | 37.2        | 22.24   | 21.15    | 11.42  | 6.99  | 20.39   | 4.95   |
| 2012 | 38.47  | 18.13                       | 10.86     | 40.34       | 24.78   | 22.18    | 12     | 9.83  | 23.55   | 5.04   |
| 2013 | 41.48  | 20.47                       | 12.24     | 44.9        | 31.15   | 23.28    | 14.1   | 10.61 | 23.35   | 4.79   |
| 2014 | 46.99  | 20.76                       | 15.9      | 55.71       | 32.51   | 32.5     | 13.79  | 12.89 | 27.42   | 5.04   |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Investment Income (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 26.42  | 2.2                         | 1.96      | 4.92        | 2.5     | 3.12     | 1.31   | 1.83  | 2.89    | 0.6    |
| 2004 | 28.46  | 1.8                         | 3.89      | 5.43        | 2.36    | 3.17     | 1.3    | 1.51  | 2.97    | 0.65   |
| 2005 | 27.16  | 1.99                        | 5.23      | 5.82        | 3.75    | 3.6      | 1.76   | 1.23  | 3.87    | 1.69   |
| 2006 | 29.7   | 2.22                        | 4.4       | 8.52        | 3.7     | 4.3      | 1.56   | 1.68  | 4.68    | 1.91   |

|      |        |       |       |       |      |       |       |      |       |      |
|------|--------|-------|-------|-------|------|-------|-------|------|-------|------|
| 2007 | 38.11  | 4.16  | 7.63  | 18.64 | 7.47 | 4.24  | 2.17  | 3.62 | 5.57  | 1.98 |
| 2008 | 40.47  | 5.9   | 7.23  | 25.33 | 6.78 | 6.11  | 2.39  | 3.19 | 5.64  | 2.15 |
| 2009 | 44.32  | 3.83  | 7.18  | 22.42 | 4.31 | 11.49 | 2.76  | 5.64 | 4.88  | 1.78 |
| 2010 | 63.52  | 12.75 | 13.61 | 57.71 | 7.72 | 15.37 | 10.22 | 9.34 | 11.73 | 2.92 |
| 2011 | 67.21  | 9.55  | 19.79 | 13.18 | 0.62 | 15.99 | 4.8   | 4.38 | 12.32 | 2.09 |
| 2012 | 85.78  | 6.58  | 12.16 | 13.54 | -5.7 | 16.39 | 8.7   | 3.55 | 10.91 | 2.21 |
| 2013 | 90.9   | 8.43  | 15.29 | 20.3  | 1.53 | 23.02 | 11.74 | 5.29 | 9.5   | 2.71 |
| 2014 | 136.48 | 11.65 | 12.17 | 22.07 | 1.58 | 29.85 | 11.86 | 6.03 | 10.45 | 2.69 |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Profit before Taxes (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 33.34  | 2.61                        | 2.2       | 5.73        | 5.84    | 3.22     | 2.04   | 4.09  | 3.14    | 0.59   |
| 2004 | 34.84  | 2.62                        | 3.65      | 6.2         | 7.57    | 4.26     | 2.37   | -1.54 | 3.72    | 0.62   |
| 2005 | 36.37  | 2.65                        | 5.43      | 8.69        | 9.83    | 5.57     | 2.63   | 1.83  | 5.02    | 1.62   |
| 2006 | 42.04  | 3.6                         | 4.47      | 9.48        | 12.19   | 7.01     | 3.65   | 1.41  | 5.64    | 2.79   |
| 2007 | 60.6   | 5.3                         | 8.72      | 18.64       | 17.68   | 10.07    | 3.7    | 2.79  | 7.05    | 2.89   |
| 2008 | 77.37  | 6.3                         | 8.73      | 29.51       | 19.88   | 13.79    | 5.35   | 2.56  | 8.89    | 3.08   |
| 2009 | 101.5  | 5.65                        | 10.66     | 27.77       | 13.13   | 14.63    | 6.33   | 5.57  | 9.83    | 3.45   |
| 2010 | 125.52 | 14.28                       | 17.07     | 56.24       | 16.15   | 28.72    | 13.97  | 9.27  | 13.03   | 4.76   |
| 2011 | 175.19 | 12.95                       | 24.4      | 14.34       | 13.33   | 30.49    | 9.65   | 6.08  | 20.45   | 4.38   |
| 2012 | 180.37 | 12.82                       | 21.22     | 26.28       | 14.12   | 29.79    | 17.94  | 10.16 | 27.71   | 6.54   |
| 2013 | 218.4  | 12.11                       | 24.05     | 30.48       | 19.76   | 40.61    | 16.38  | 12.76 | 29.78   | 6.56   |
| 2014 | 247.07 | 10.06                       | 18.09     | 29.06       | 10.93   | 45.83    | 17.25  | 13.85 | 27.46   | 6.86   |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Profit after Taxes (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 22.4   | 1.59                        | 1.57      | 2.99        | 4.64    | 1.88     | 1.44   | 1.89  | 2.43    | 0.32   |
| 2004 | 22.62  | 1.47                        | 3.25      | 2.87        | 5.49    | 3.49     | 1.77   | 0     | 2.77    | 0.34   |
| 2005 | 22.62  | 1.92                        | 5.16      | 4.37        | 7.83    | 3.91     | 1.93   | 1.73  | 3.4     | 0.77   |
| 2006 | 24     | 2.2                         | 3.73      | 4.81        | 9.44    | 5.21     | 2.75   | 1.26  | 3.56    | 1.8    |
| 2007 | 44     | 4.05                        | 7.83      | 16.32       | 14.26   | 6.63     | 2.7    | 2.16  | 4.95    | 1.71   |

|      |        |       |       |       |       |       |       |      |       |      |
|------|--------|-------|-------|-------|-------|-------|-------|------|-------|------|
| 2008 | 56.73  | 4.5   | 6.98  | 24.51 | 11.8  | 10.79 | 3.3   | 2.24 | 6.29  | 1.78 |
| 2009 | 73.75  | 4.25  | 8.89  | 23.27 | 6.85  | 11.97 | 4.13  | 4.92 | 8.12  | 2.27 |
| 2010 | 78.1   | 10.78 | 15.47 | 50.24 | 10.69 | 21.76 | 12.15 | 8.32 | 11.03 | 3.32 |
| 2011 | 126.46 | 8.8   | 19.76 | 13.4  | 7.98  | 22.03 | 7.26  | 5.08 | 17.45 | 3.17 |
| 2012 | 139.37 | 8.82  | 15.33 | 23.77 | 4.73  | 20.39 | 11.67 | 7.24 | 20.71 | 4.48 |
| 2013 | 162.56 | 7.36  | 20.06 | 24.87 | 8.27  | 27.7  | 10.32 | 8.65 | 21.28 | 4.41 |
| 2014 | 176.6  | 7.06  | 15.79 | 23.92 | 5.31  | 29.81 | 10.77 | 9.83 | 19.82 | 4.65 |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Unexpired Risks Reserve (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 8.85   | 4.69                        | 3.18      | 9.58        | 11.32   | 7        | 5.08   | 5.25  | 3.02    | 2.4    |
| 2004 | 0      | 5.36                        | 2.91      | 11.68       | 11.8    | 8.41     | 5.43   | 4.23  | 3.35    | 2.54   |
| 2005 | -14.4  | 5.49                        | 5.19      | 13.38       | 13.91   | 10.08    | 5.86   | 3.28  | 4.25    | 3.69   |
| 2006 | -8.76  | 6.15                        | 6.03      | 16.52       | 15.19   | 11.2     | 7.06   | 3.31  | 5.81    | 2.89   |
| 2007 | -23.22 | 5.5                         | 7.12      | 22.66       | 17.15   | 14.37    | 10.81  | 4.18  | 8       | 3.92   |
| 2008 | -13.11 | 5.4                         | 7.98      | 31.45       | 20.7    | 18.34    | 12.18  | 4.66  | 13      | 4.3    |
| 2009 | 21.81  | 7.63                        | 8.86      | 36.32       | 21.54   | 17.33    | 12.99  | 4.88  | 16.07   | 4.43   |
| 2010 | 5.16   | 10.92                       | 11.12     | 38.64       | 23.89   | 24.86    | 16.5   | 5.4   | 21.94   | 5.64   |
| 2011 | 10.56  | 13.27                       | 12.27     | 43.32       | 24.21   | 83.2     | 20.02  | 8.64  | 29      | 5.61   |
| 2012 | 96.56  | 14.16                       | 13.92     | 61.18       | 29.81   | 81.17    | 19.21  | 10.79 | 34.11   | 6.57   |
| 2013 | 26.1   | 9.47                        | 15.46     | 65.81       | 31.81   | 60.75    | 30.73  | 10.75 | 36.7    | 6.02   |
| 2014 | 23.61  | 13.47                       | 14.33     | 50.05       | 28.11   | 80.83    | 32.73  | 12.04 | 42.6    | 6.52   |

Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.

### Net Worth/Value/Assets (Taka in crore)

| Year | Public | Private Insurance Companies |           |             |         |          |        |       |         |        |
|------|--------|-----------------------------|-----------|-------------|---------|----------|--------|-------|---------|--------|
|      | SBC    | BGIC                        | East Land | Green Dalta | Pragati | Reliance | Rupali | Prime | Pioneer | Agrani |
| 2003 | 594.2  | 46.58                       | 41.01     | 75.22       | 125.22  | 61.88    | 39.9   | 38.95 | 30.97   | 11.13  |
| 2004 | 635.97 | 48.8                        | 41.15     | 96.46       | 138.02  | 71.68    | 40.65  | 38.2  | 43.81   | 13.36  |
| 2005 | 605.19 | 51.58                       | 50.19     | 114.88      | 140.04  | 79.47    | 44.29  | 41.69 | 50.59   | 25.89  |
| 2006 | 666.62 | 54.85                       | 60.38     | 122.79      | 154.6   | 106.58   | 48.5   | 46.53 | 57.57   | 31.32  |

|      |         |        |        |        |        |        |        |        |        |       |
|------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 2007 | 776.81  | 56.79  | 70.83  | 169.84 | 244.94 | 119.69 | 55.93  | 49.15  | 67.7   | 35.44 |
| 2008 | 962.38  | 64.25  | 75.33  | 287.25 | 266.24 | 146.79 | 61.54  | 52.34  | 69.06  | 37.31 |
| 2009 | 994.62  | 98.78  | 94.54  | 343.3  | 290.09 | 188.02 | 105.28 | 55.45  | 81.1   | 35.52 |
| 2010 | 1121.11 | 124.86 | 110.42 | 474.18 | 301.24 | 286.21 | 121.6  | 64.99  | 99.8   | 40.5  |
| 2011 | 1338.38 | 143.47 | 131.73 | 446.42 | 346.13 | 453.08 | 132.39 | 77.54  | 152.16 | 46.12 |
| 2012 | 1500.41 | 148.26 | 154.77 | 558.16 | 345.96 | 441.07 | 188.72 | 92.07  | 177.25 | 54.35 |
| 2013 | 1766.34 | 155.52 | 171.78 | 630.53 | 364.71 | 479.63 | 198.23 | 104.23 | 202.67 | 59.17 |
| 2014 | 2058.86 | 156.24 | 178.39 | 659.93 | 396.79 | 572.81 | 205.88 | 119.23 | 227.45 | 61.95 |

**Source- Annual Report (2003 -2014) of above-mentioned non-life insurance firms.**

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