Junaid Akram
Consulting Actuary

Non-Life Insurance and Actuaries in Pakistan

This article will discuss the role of actuaries in non-life insurance and how it compares in Pakistan, however, before coming to the main topic we will discuss the following as well:

- A brief look at the size of the insurance industry of Pakistan
- Segmentation between life and non-life insurance in Pakistan

Size of Insurance Industry of Pakistan

Table 1.1, provides 2015 Gross Premium and Insurance Density (premium per capita) for comparable countries. Out of these countries from GCC, South Asia and Far-East Asia the Gross Premium of Pakistan is only higher than Oman & Bangladesh, while Insurance Density is only higher than Bangladesh. This shows that there is huge potential for the insurance industry to grow in future given the right direction is followed.

The insurance industry of Pakistan is small due to various reasons some of which are summarized below:

- No income tax culture, although life insurance premiums are income tax deductible even then the business is low due to small proportion of people paying taxes
- No Compulsory Insurance, although the law is there for Third Party Liability (TPL) insurance to be compulsory for motor vehicles but this is not correctly enforced and motor vehicle owners are able to get TPL insurance at nominal costs which does not provide the required coverage
- No insurance culture, it is said that the insurance is not in the culture of the people of Pakistan. People are reluctant to buy insurance, they feel it is not Islamic as well as they assume the family and friends will help during difficult times.

Life & Non-Life Insurance in Pakistan

During the last decade, in Pakistan, the insurance industry focus has shifted from non-life to life insurance i.e. major portion of gross premiums are for life insurance companies, as shown in the table 1.2.

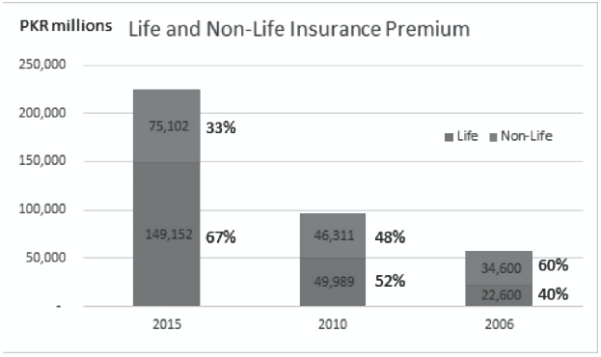
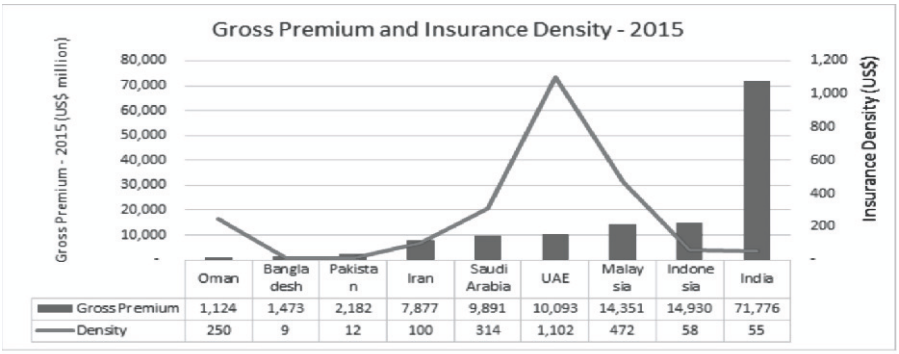


Table 1.2: Development of Life and Non-Life Insurance Premium

The above table highlights how the life insurance premium over the period of 10-years has increased in proportion i.e. from 40% in 2006 to 67% in 2015. This shows an annual growth rate of 23% for life insurance and 9% for non-life insurance with a combined annual growth rate of 16%.

It is expected that the proportion of life insurance will increase further in future years, given no immediate action is taken by the non-life insurance sector and regulators to



	Oman	Bangladesh	Pakistan	Iran	Saudi Arabia	UAE	Malaysia	Indonesia	India
Gross Premium	1,124	1,473	2,182	7,877	9,891	10,093	14,351	14,930	71,776
Density	250	9	12	100	314	1,102	472	58	55

Table 1.1: Gross Premium and Insurance Density

support non-life insurance. Overall the global average business of life insurance is around 55% i.e. around 45% of global insurance business is for non-life insurance.

Non-Life Insurance and Actuaries

Actuaries are rarely being employed in the non-life insurance sector of Pakistan, when compared with other comparable countries where actuaries have a critical role in management of the company. This is in contrast to life insurance where actuaries are considered critical since the beginning of the life insurance industry. When compared with other comparable countries, in UAE, Saudi Arabia and India actuaries are being employed by non-life insurance companies while in Malaysia it is mandatory for a non-life insurance company to have a qualified actuary as an employee.

The main reason for small (no) participation of actuaries in non-life is due to life insurance being based on actuarial principles whereas non-life insurance is considered more as an ad-hoc (short term) business though with respect to riskiness some classes of non-life insurance are even more volatile than life insurance. The reason also lies, in part, with actuarial profession as actuaries showed less interest in non-life insurance pricing and reserving initially.

Recently SECP gave 'Guidelines for Estimation of IBNR Claims Reserves' which encourage the use of an Actuary by non-life insurance companies in Pakistan for claim reserving purpose.

We describe in detail the areas where actuaries help non-life insurance companies globally.

1. Claim Reserving

Claim reserving is a key actuarial role in non-life insurance, when working in this function communication of Actuary with other departments is important particularly with claims, finance and legal.

Actuaries apply actuarial techniques and professional experience to come up with adequate amount of reserves for claims in the following categories.

Know Claims	Unknown Claims
• Case Outstanding • Future Developments on Known Claims • Provision for Claims to Reopen	• Incurred but not Reported • Reported but not Recorded

These are described as follows:

Known Claims

- **Case Outstanding:** Claims which are reported and recorded by the insurance company. A particular value is also assigned to the claim estimate in monetary terms as Case Outstanding.

- **Future Developments on Known Claims:** Amount assigned to reported and recorded claims in addition to Case Outstanding to account for actual paid amount being higher/lower than the Case Outstanding.

- **Provision for Claims to Reopen:** Amount assigned to claims which are paid and closed to account for re-opening of claims resulting in additional out/in payments.

Unknown Claims

Incurred but not Reported: Claims which have occurred but not yet reported to the insurance company.

Incurred but not Recorded: Claims which have occurred and been reported but not yet recorded by the insurance company.

Adjustment is also made for claim handling and settling expenses and reinsurance arrangement to arrive at reasonable final claim reserving figures.

The two critical aspects of claim reserving process are

1. Technical Evaluation

This part of the process is based on evaluation of claims data using suitable actuarial methods. The data usually required is paid and outstanding claims apart from underwriting, financial etc.

Each method produces different results and is based on the principle that the past pattern of claims is representation of future. The basic methods used are

- Chain Ladder Method
- Expected Claims Method
- Bornhuetter-Ferguson Method
- Cape-Cod Method
- Case Outstanding Method
- Stochastic Method
- Frequency-Severity Method

2. Actuarial Judgment

Actuarial judgement is a critical part of claim reserving process. Application of actuarial methods without regard to underlying claims data and processes can lead to misleading results. Actuaries apply actuarial judgement in order to select the most appropriate method and assumptions.

When applying actuarial judgment actuaries look at various factors including the following:

- Changes in underwriting policies
- Changes in outstanding claims reserving processes
- Changes in regulatory or legal environment
- Changes in business mix
- External factors

SECP # Circular 09 of 2016 – Guidelines for Estimation of Incurred but not Reported (IBNR) Claims Reserves

The Securities and Exchange Commission of Pakistan (SECP) has issued guidelines for non-life insurance companies on methodology for estimation of 'Incurred But Not Reported (IBNR)' claims reserve, through Circular # 09 of 2016 as at March 09, 2016. The guidelines prescribe a standard method for the estimation of IBNR. This will bring standardization and uniformity across the non-life insurance sector in respect of IBNR estimation. All non-life insurance companies are required to comply with the guidelines effective July 1, 2016.

The following are the main points from the circular

- **Prescribed Method:** Chain Ladder Method
- **IBNR Reserve:** To be determined according to the guidelines
- **Annual Valuation Report:** Annual Valuation report to include quantitative reports and to be submitted to the regulator
- **Claims Data:** Maintenance of adequate claims data is the responsibility of the insurance company
- **Effect of Reinsurance:** To be considered
- **Other External and Internal Factors:** Need to consider other external and internal factors when determining the IBNR reserves
- **Alternate Method:** May use alternate method based on past experience and future outlook, must not result in lower IBNR then prescribed method
- **Settlement Expenses:** Need to include in the IBNR reserves

2. Pricing

For many products the cost is known at the time of sale however for insurance products it is not possible to know the exact cost at the time of sale. Actuarial techniques help insurance companies determine the cost to be charged from the clients in order to cover the cost of insurance, expenses and make reasonable profit. Actuaries are usually sitting by the side of underwriting providing guidance on policy pricing.

The basic premium equation is usually used to determine the premium amount, which says

Premium = Loss + LAE + UW Expenses + UW Profit

Premium = Amount charged from the policyholder
Loss = Amount of compensation paid to the policyholder (include recovery from salvage or subrogation)
LAE = Loss Adjustment Expenses (LAE) cover claim's direct and indirect cost related to settlement of expenses. Direct cost include survey cost etc. while indirect cost includes claims department cost etc.
UW Expenses = Underwriting (UW) Expenses include all costs other than LAE. These include general expenses, commission, taxes etc. less investment income

UW Profit = Underwriting (UW) profit includes suitable risk margin and reasonable profit

The primary actuarial work in pricing is determination of expected loss cost. This is determined using exposures, loss trends and developments based on available internal and external data.

Credibility factors are also used to weight past experience based premium with premium determined on overall portfolio experience.

In Pakistan actuaries are usually not being used in pricing of non-life insurance policies except for in health insurance by some companies.

3. Capital and Risk Management

In recent years, actuaries have become more involved in financial and corporate matters of the insurance companies including capital management and risk.

Capital Adequacy

Actuarial techniques and methods are used to determine capital adequacy by projecting future assets and liabilities using deterministic and stochastic methods. The results are then analysed to determine the chance of insolvency.

Risk Management

Insurance risk are usually very complex since insurance business assume additional risk than the usual risks involved.

Financial Risk	Non-Financial Risk
• Credit Risk	• Operational Risk
• Market Risk	• Business Risk
• Liquidity Risk	• Strategic Risk
• Insurance Risk	• Reputational Risk

The insurance risk includes

- Underwriting Risk
- Reinsurance Risk
- Catastrophe Risk
- Reserve Risk
- Asset/Liability Management

In addition, actuaries are also providing insurance companies with complete Enterprise Risk Management (ERM) framework in order to manage the risks being faced.