Lecture

INSTITUTE OF ACTUARIAL & QUANTITATIVE STUDIES

Class: FY BSc

Subject :

Subject Code:

Chapter: Unit 1 Chapter 4

Chapter Name: Reinsurance

Today's Agenda

1. Introduction
    1. Terminology with Reinsurance

2. Profitability
    1. Operating cycle of Non life industry
    2. GWP
    3. Premium ceded

3. Types of Reinsurance

1 Introduction

Reinsurance is a form of insurance purchased by insurance companies in order to mitigate risk. With reinsurance, the company passes on some part of its own insurance liabilities to the other insurance company.

Insurers purchase reinsurance for four reasons: To limit liability on a specific risk, to stabilize loss experience, to protect themselves and the insured against catastrophes, and to increase their capacity

1.1 Terminology with Reinsurance

- **NWP: Net Written Premium** - Net premiums written is the sum of premiums written by an insurance company over the course of a period of time, less premiums ceded to reinsurance companies, plus any reinsurance assumed.

- **Earned Premium** - The premium collected by an insurance company for the portion of a policy that has expired. In other words, the earned premium is what the insured party has paid for a portion of time in which the insurance policy was in effect, but has since expired.

- **Net Earned Premium** - means the Net Written Premiums recorded during the Experience Period, plus the unearned premium reserves at the beginning of the period, minus the unearned premium reserves at the end of the period.

1.1 Terminology with Reinsurance

- **NWP: Net Written Premium** - Net premiums written is the sum of premiums written by an insurance company over the course of a period of time, less premiums ceded to reinsurance companies, plus any reinsurance assumed.

- **Example**

  - Premium collected from the client i.e. GWP Rs. 1000
  - Premium ceded to the reinsurer i.e. RI ceded Rs. 100

  So Net written premium (NWP) – ?????

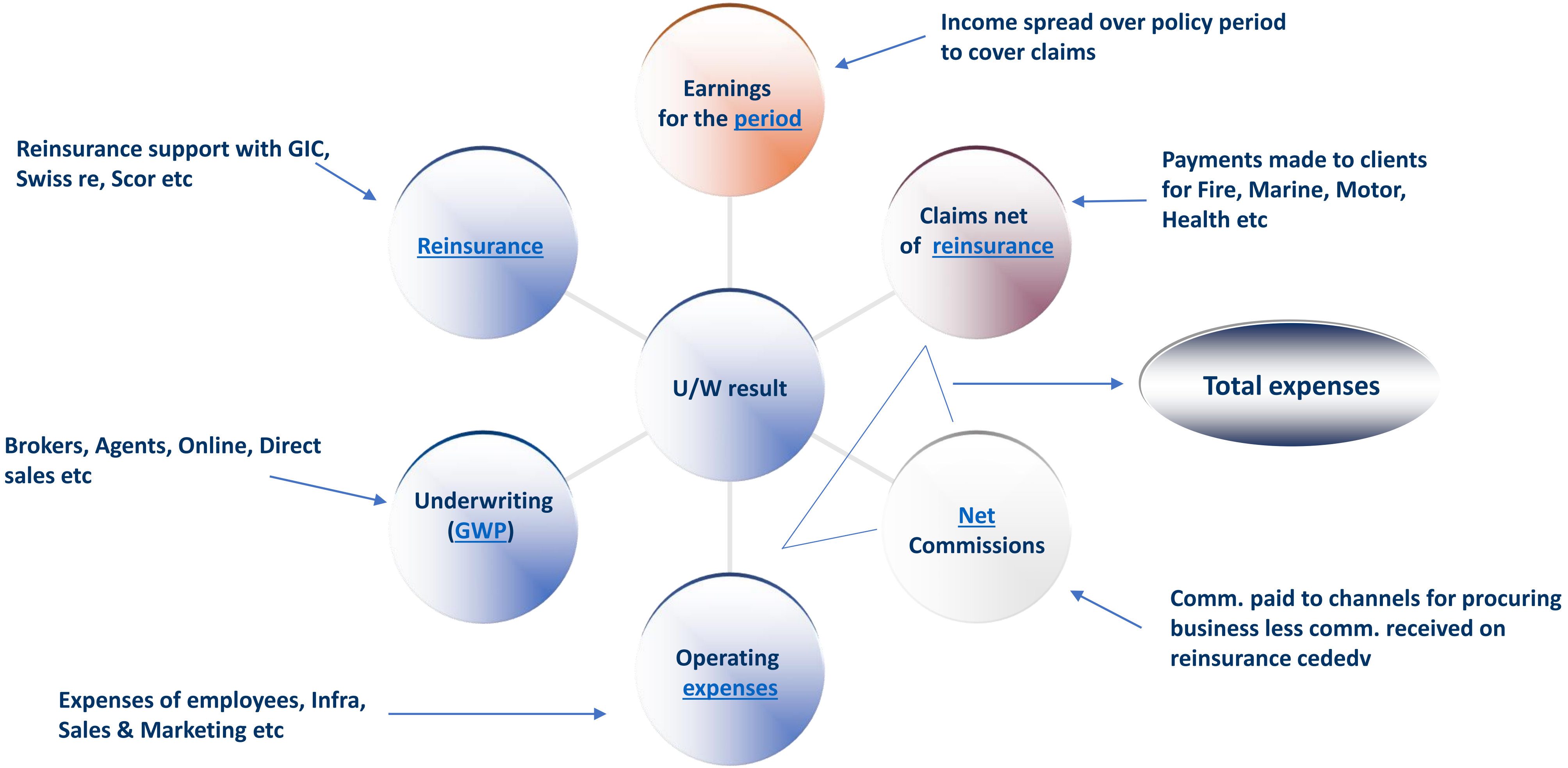
  Net premium = GWP – RI ceded
  Net premium = 1000 – 100 = 900

2 Profitability

- Profit & Loss (P&L) statement indicates the profitability of an organization
- Profitability states the surplus or deficit as generated by an entity by its various activities.
- Surplus indicates the excess of gross inflow (income) over gross outflow (expenses) & deficit indicates vice versa.

Main purpose of P&L:
- Monitor & measure the profits of a unit
- Help to understand the functioning & business performance
- Understand the impact on product profitability, vertical or channel profitability
- Decision making & implementation

2.1 Operating cycle of non-life industry



2.2 GWP - Sharing (Example)

Client has paid Rs 1000 as premium for risk & following mandate is provided for sharing the risk by the client.

Scenario 1

- 100% mandate with XYZ Insurance.
- Ans. :- Rs. 1000 premium will be part of XYZ Insurance GWP

Scenario 2

- XYZ Insurance as leader with 70% share & Oriental as 30% share as follower.
- Ans. :- Rs. 700 premium will be part of XYZ Insurance GWP & rest will be part of oriental.

Scenario 3

- XYZ Insurance as follower with 30% share & Oriental as 70% share as leader.
- Ans. :- Rs. 300 premium will be part of XYZ Insurance GWP & rest will be part of oriental.

2.2 GWP

Premium is accounted on the basis of risk start date & policy / endorsement booking date whichever is later.

Example

Answers

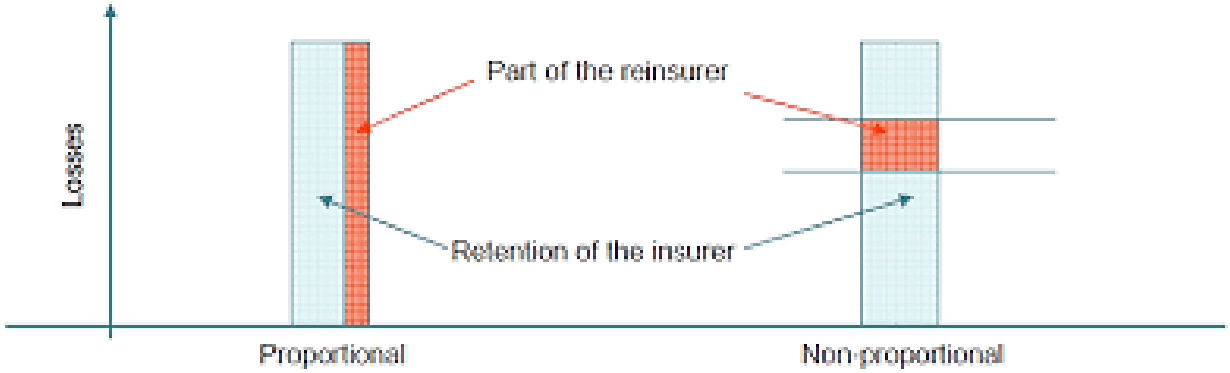
Case	Risk start date	Booking date	P&L Reporting month
Case 1	1-Apr-10	1-Mar-10	1-Apr-10
Case 2	15-May-10	14-May-10	15-May-10
Case 3	20-Apr-10	25-Jun-10	25-Jun-10
Case 4	22-Jun-10	20-Apr-10	22-Jun-10

2.3 Premium Ceded

- **Reinsurance premium ceded** (RI ceded) represents portion of the gross written premium payable to reinsurance entities based on “reinsurance arrangements”. Reinsurance arrangement helps an insurance company to spread risk & expand capacity.

- **Proportional ceding** – indicates premium & claims shared in same ratio between insurance company & reinsurance company as per the arrangements

- **Non proportional ceding** - indicates where the claims is shared in excess of specified amount by reinsurance company

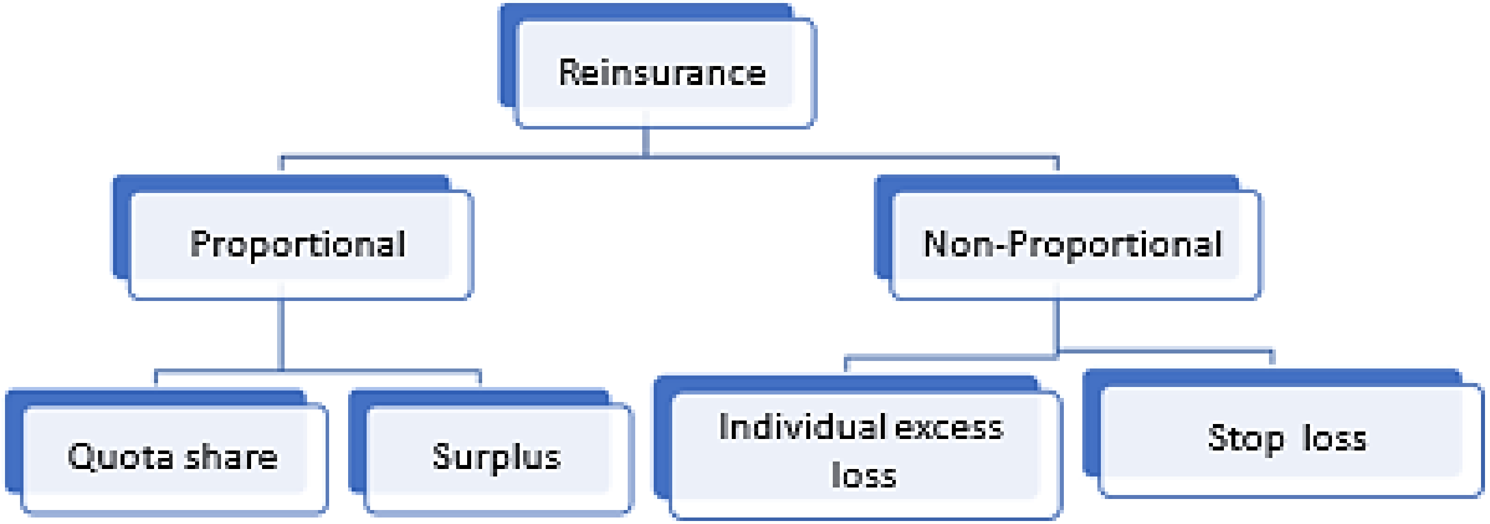


2.3 Premium Ceded - Example

Example - Premium received from client – INR 1000 for Sum insured INR 1,000,000
Reinsurance arrangement
Proportional treaty – GIC Quota Share arrangement - 10% of risk

Particular (Amount in INR)	Risk Sharing	Premium
100% risk with Company	1,000,000	1,000
With reinsurer		
Proportional Ceding	100,000	100
Premium ceding	100,000	100

3 Types of Reinsurance



3 Types of Reinsurance

Proportional Reinsurance : the direct writer (original insurance company) & the reinsurer share the cost of all claims . This is of two types –

1. Quota share reinsurance – Reinsurer and writer share all premiums and losses according to a fixed percentage.

For example, Bajaj Allianz enters into a reinsurance contract with Munich Re with retained proportion of 80%. This means Bajaj Allianz pays 80% of the claim amount and gets to keep 80% of the premium received. Munich Re has to pay 20% of the claim amount and receives 20% of the premium.

Retained Proportion denotes by α. Let X be the gross claim amount, Y be the net claim amount paid by the insurer and Z be the claim amount paid by the reinsurer. $Y = \alpha X$ and $Z = (1- \alpha) X$

3 Types of Reinsurance

2. Surplus share reinsurance: A surplus share treaty is a reinsurance treaty in which the ceding insurer retains a fixed amount of policy liability and the reinsurer takes responsibility for what remains. Surplus share treaties are considered pro-rata treaties and are most commonly used with property insurance.

For example: HDFC Ergo forms a surplus share reinsurance contract with Swiss Re and underwrites policies with a coverage of Rs 50,00,000 with retention of Rs 20,00,000 . The remaining 30,00,000 are ceded to reinsurer.

3 Types of Reinsurance

Non-Proportional Reinsurance : Under a non-proportional reinsurance arrangement, the direct writer pays a fixed premium to the reinsurer. The reinsurer will only be required to make payments where part of the claim amount falls in a particular reinsurance layer.

1. Individual excess loss : reinsurer makes a payment when the claim amount for an individual claim exceeds a specified excess point or retention.

For example: Apollo enters into a reinsurance treaty with Swiss Re and reinsurance layer is fixed at 50 lac to 1 crore.

$Y = X$; $X < 50$ lac

$Y = 50$ lac ; $50 \text{ lac} < X < 1$ Crore

$Y = X – 50$ Lac ; $X > 1$ crore

$Z = X – 50$ lac ; $50 \text{ lac} < X < 1$ crore

$Z = 50$ lac ; $X > 1$ crore

3 Types of Reinsurance

2. Stop Loss Reinsurance : The reinsurer is liable for the insured's losses incurred over a certain period that exceed a specified amount or percentage of some business measure, such as earned premiums written, up to the policy limit. Under this kind of policy, the direct writer (insurance company) agrees to carry the full burden of the loss up to a limit, *L* and claim amount exceeding L is paid by the reinsurer.

For example : Acko enters into a reinsurance contract with Munich Re and the contract indicates that the insurance company , Acko is responsible for losses up to $500,000, but that the reinsurance company, Munich Re is responsible for anything above that limit.

$Y = X ; X < L$

$Y = L ; X > L$

$Z = X - L ; X > L$