

IC-01

Principles of Insurance

(WITH KEYNOTES)

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Preface

We live and express ourselves through our possessions. We derive value from our homes, our factories, and our clothes. Human life has greater value. These things help us to earn an income or are a source of comfort and satisfaction. We treasure them, for what they are, and what they can do for us. In the language of economics, we call them assets.

Yet, these things can be destroyed or their value affected by various un-foreseen events. Life can be ravaged or cut short by death or disease. Our property can be destroyed by fires or earth-quakes, or they could be burgled. Even if these events may not occur, the very fact that we are exposed to the chance of their happening, is a cause of un-certainty. This situation of being un-sure about the future, can make it difficult to plan and conduct, any human enterprise.

Fortunately for us, only a few of us generally suffer from such loss, as we have described above, at the same point of time. Again, while the future is un-certain, it is also possible to predict, what will happen, to a reasonable extent. For example, even if it may be almost impossible to say, whether Mr. X will die tomorrow, it may be possible to estimate the chance, as to, when a person like Mr. X, may die.

There are, however, two facts, that all are aware of:

- (1) Losses, usually affect only a few, and not every-one in a large group.
- (2) The Chance of Loss can be predicted to some extent, on the basis of past experience.

These two facts have enabled man-kind, to create the wonderful institution, called, insurance. Insurance is, thus, a mechanism, by which, the economic losses, that one would suffer, as a result of an event, can be shared by all the members of a group. Just as, small streams and rivulets go to make the mighty ocean, the small contributions of numerous individuals in a group, get collected and pooled into a common fund. The un-fortunate few, who suffer a loss, get compensated from the fund, created by the many.

In this book, we shall get introduced to this wonderful mechanism, called, insurance. We will study, what it is all about, why it becomes necessary, and how it works in various contexts.

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CHAPTER 1

INTRODUCTION TO INSURANCE

Chapter Introduction

This book on the Principles of Insurance would help you understand the workings and complexities of insurance. This Chapter would provide some insights into the operating model of insurance. It would enlighten you on what insurance is, how it works, and what its scope is.

■ Learning Outcomes

- a. Study what Risk is and how it is managed
- b. Learn what Insurance is, and how it works
- c. Understand the need for and the benefits of Insurance



1. Study what Risk is and how it is managed

Learning Outcome (a)

WHAT IS INSURANCE?

Insurance is a part of our lives. We insure our cars, our lives, and we insure our health. But we do not know how insurance works, or what insurance really is. Automobiles is also a part of our lives. We drive cars or bikes every day. But we may not know how the automobile works. Similarly, we use insurance all the time. Yet we may not know how insurance works.

What we know about insurance is that if a person meets with a loss, the insurance companies compensate the loss. We do know that insurance is a loss sharing mechanism.

If out of hundred people insured, five people meet with a loss, the losses of these five people are met through the contribution made by all the hundred people who are exposed to the same risk. Insurance, thus, is a collection of people who are exposed to the same kind of risk.

What Is Risk?

Risk is the possibility of a deviation from an expected outcome. There is no risk that the sun will not rise in the east tomorrow. Day after day, year after year and centuries after centuries, the sun unfailingly rises in the east. Therefore, there is no risk of the sun not rising in the east tomorrow morning.

But not all things are as sure as the sunrise.

- It could rain tomorrow, it could not.
- We could have a flood tomorrow; we could not have a flood tomorrow.
- My friend could get hospitalised tomorrow or not.
- My neighbour could lose money in the stock market.
- My goods could remain unsold for months.

In all these situations, there is an expected outcome. And there is a possibility of a deviation from the expected outcome. Table 1 lists a few situations, the expected outcome, and the possible deviation.

| EVENT | EXPECTED OUTCOME | DEVIATION |
|----------------------|---|---------------------------------|
| Picnic | Happy Outing | Rainfall spoils my picnic plans |
| Flood | Safety of the goods stored in the warehouse | Goods Damaged by flood |
| Hospitalisation | Good health | Illness |
| Loss in Stock market | Gain | Loss |

| Sale of goods | Sales and Profit | Unsold goods and loss |
|----------------|------------------|-----------------------|
| <i>Table 1</i> | | |

In Insurance, what we are concerned with is the possibility of an adverse deviation. When we use the term Risk in insurance, we are concerned only with deviations that result in a loss. And we are concerned only with deviations that cause financial loss, not an emotional loss or a sentimental loss.

So, risk from an insurance point of view, is the possibility of an adverse deviation from an expected outcome resulting in a financial loss. But not all financial losses are covered. Only those losses caused by Pure Risks are covered. What are Pure Risks?

Pure Risks and Speculative Risks

Though risks could be grouped into different types, in this book, we are concerned only with grouping them into Pure Risks and Speculative Risks.

Pure Risks

Pure Risks are those that cause a loss, and never again.

- A car could be damaged by an Earthquake or not.
- A factory could be burnt by fire or not.
- A person could die due to an illness or not.
- A person could get hospitalised or not.
- A machinery could breakdown or not.
- A shop could be burgled or not.

In all these situations, there are only two possible outcomes: Loss or No Loss. Definitely there is no possibility of a gain.

A Pure Risk does not require a voluntary action on the part of the person to trigger a loss.

- A coconut could fall on a sleeping man, or a snake could bite him, with no voluntary action taken by him.
- In fact, even a man sleeping in the comforts of his home could die due to an earthquake.

Thus, Pure Risks are beyond the control of those who suffer from the losses they are exposed to.

Speculative Risks

Speculative Risks could result in three possible outcomes:

- Profit
- Loss
- No Profit No Loss

Consider the following situations:

- R buys 100 shares @5000 each, and because the price of the shares he bought goes up, he sells them @6000 each, and makes a gain of ₹1,00,000
- Same R, on another day, buys 100 shares @5000 each, but because the price of the shares he bought comes down, he sells them @4000 each and incurs a loss of ₹1,00,000
- Same R, on yet another day, buys 100 shares @5000 and the price of the shares neither moves up, nor comes down. They are stagnant. Now R sells them @5000 each. In this case, he neither makes a profit, nor suffers a loss.

Speculative Risks thus have three possible outcomes: Profit, Loss, No Profit No Loss. There are many types of Speculative Risks. These include:

- Change in market demand
- Change in fashion
- Change in Government Policy
- Change in Tax Rates
- Change in Interest Rates
- Change in Foreign Exchange Rates
- Competition

The most important aspect of a Speculative Risk is that it is undertaken voluntarily. Speculative Risks cause losses, only when you venture to undertake a speculative activity.

- If Q does not invest in the stock market at all, he would never suffer any loss due to market movements.
- If Q does not trade in Foreign Exchange, he will not face any loss due to currency fluctuation.

All Speculative Risks are thus voluntarily undertaken.

| DISTINCTION BETWEEN PURE RISKS AND SPECULATIVE RISKS | | |
|--|-----------------|-----------------------------|
| FEATURE | PURE RISKS | SPECULATIVE RISKS |
| Outcome | Loss Or No Loss | Loss, No Loss No Gain, Gain |
| Domain Of Control | Outside | Within |
| Coverage | Can Be Insured | Not Insured |
| Choice | Involuntary | Conscious |

| | | | |
|----------------|--|------------------------|-----------|
| Examples | Accident, Death, Illness, Natural Disasters, Liability | Speculation, Adventure | Business, |
| <i>Table 2</i> | | | |

The difference between Pure Risks and Speculative Risks are detailed in Table 2 for a purpose. Insurance covers Pure Risks but not Speculative Risks.

Why are Speculative Risks Not Insured?

- A speculative risk is voluntarily undertaken. If losses caused by such speculative risks are compensated by insurance, more and more people would be encouraged to be more and more adventurous. This could result in staggering losses that no insurer would be able to meet.
- Again, while people would be willing to share their losses, they will not be sharing their profits. To compensate these losses in an arrangement which does not share gains, the premium also could be so high that not many people could buy such insurance.
- Speculative risks could not be easily predicted. Even with the best of technology and the best of tools, no device exists which could predict the likely outcome of a speculative enterprise. Since acceptable standards of prediction are not available to predict probabilities of outcomes for speculative risks, insurance cannot function.
- No risk, no gain. If insurance were to exist for covering losses by speculative risks, enterprise will not thrive. Enterprise lies in undertaking risks. A risk averse approach would not nurture enterprise.

For all these reasons stated above, Speculative Risks are not insured.

RISK MANAGEMENT

We saw that insurance is an arrangement for sharing the losses of a few among the many who are exposed to the same kind of risks. We studied that in insurance, we are concerned only with those risks which cause a financial loss. We also noted that Insurance covers only Pure Risks which cause financial losses, and that those financial losses which are caused by Speculative Risks are not covered.

Before delving further into the various aspects of Insurance, let us briefly study Risk Management. A word of caution before we proceed on this study of Risk Management. While Insurance is concerned only with Pure Risks, Risk Management aims to address all risks, be they Pure or Speculative.

Thus, a Risk Manager in a financial enterprise has to manage Speculative Risks such as Foreign Exchange Fluctuations, to reduce volatility in the export earnings of that enterprise. Therefore, in this particular section on Risk Management, we

would be concerned with Risks, all kinds of Risks, and not confine our discussions only to Pure Risks.

What Is Risk Management?

Risk Management is the discipline of identifying and managing the risks an individual or an enterprise is exposed to. In this Chapter, we would be discussing Risk Management for the enterprise, but the principles are as much applicable to risks an individual faces.

Risk Identification

Risk Management is initially concerned with identifying risks. An enterprise faces various risks. Some of them are from Pure Risks, some from Speculative Risks. It is the duty of Risk Management to identify all risks the enterprise is exposed to. Risk Identification is an involved activity, where each and every risk the enterprise faces is carefully identified and documented. History of past losses and near misses of the enterprise are analysed. Past losses of other enterprises similarly placed are studied. A Risk Register is maintained to record all the risks the enterprise faces. Every conceivable risk which has the potential to create an economic loss is diligently identified.

Risk Evaluation

After identifying a risk, it is evaluated in terms of its potential to cause losses. These are measured in on two important dimensions: Frequency and Severity. Frequency is the number of times a given risk could result in a loss in a given period. Severity is the average amount of these losses. A quick reckoner to measure the gravity of the risk is to multiply Frequency by Severity, which gives the enterprise a measure of the loss in economic terms. Based on the gravity of a loss, the risks are classified. The next task is to treat them.

TREATING RISKS

1. AVOIDANCE

Certain risks are best avoided. One could avoid building a factory in a seismically unstable area where insurers are reluctant to provide cover, or provide cover at a very high premium. This is an instance of Risk Avoidance.

- There are several others, like avoiding a proposal to buy a high cost, high end technology which has a very high obsolescence. Even before the enterprise could recoup its investment cost, the equipment could become obsolete.
- Avoiding industries where the competition is very high with predatory pricing practices is another instance of risk avoidance.

- Generally those risks which have a more speculative element that cannot be insured and those risks with possible losses of high severity and high probability are best avoided.

What risk to avoid and what risk to undertake is the most important decision the enterprise must take. In fact, there could also be opportunities for high profits in such speculative risks. The enterprise must measure the trade-off between risk and reward and take a careful decision. Once an enterprise wants to undertake a risk instead of avoiding it, other options for Risk Management need to be considered.

2. MITIGATION

Risk Mitigation has two elements: Prevention and Reduction.

2 (a) Prevention

Certain losses could be prevented by adopting safety measures. Wearing helmets, seatbelts, could avoid injuries. Speed breakers at accident spots could prevent accidents. Good housekeeping could prevent fire accidents. Similar safety measures prevent accidents. Prevention addresses one of the vital elements of risk- it reduces the frequency of accidents by preventing some of them.

2 (b) Reduction

No matter how many safety measures are undertaken, accidents do happen, and losses do occur. Reduction is the other side of Risk Mitigation in reducing the impact of losses, should it happen at all. Fire Extinguishing Appliances, Sprinklers, Safety Drills, improved packaging, better automobile design, audits and controls and other such safety measures reduce the extent of losses as and when they occur.

While Prevention addresses the frequency element of the risk, Reduction addresses the Severity element, by reducing the severity of the losses that inevitably happen.

3. TRANSFER

We saw that Pure Risks could be insured. Risk of losses by natural perils, by fire, theft, burglary, cybercrime, death, hospitalisation, accidents, liability and a host of other such perils could be transferred to an insurer, who would then take on the exposures. Should any losses arise out of these perils, the insurer compensates the enterprise.

But insurance comes at a cost. Sometimes the cost could be so high that the enterprise could rather retain it. But generally, insurers, by spreading the risks across many enterprises who are exposed to similar kind of risks, have brought

down the cost of risk transfer considerably. And insurers have been always looking at new risks as they emerge, and provide risk transfer solutions.

Yet, while insurers would agree to bear Pure Risks, they might not undertake Speculative Risks. It should be noted that Insurance is not the only Risk Transfer mechanism. Other financial risk transfer entities such as hedging companies undertake exchange rate and interest rate fluctuations. Investment Bankers underwrite the risk of undersubscription for an Initial Public Offering of shares. Many new financial risk transfer entities such as Asset Reconstruction companies underwrite various types of speculative risks. The enterprise would consider passing some of these risks to such non insurance entities too.

4. RETENTION

Not all losses could be avoided. Not all losses could be prevented. Nor all losses reduced. Not all risks could be transferred. Risks have to be undertaken. And while efforts could be made to prevent or reduce losses, ultimately a significant amount of losses would have to be retained by the enterprise. In fact, the very word enterprise means the ability to undertake and manage risky ventures whose outcomes could be adverse. But one could not leave such adversities to chance. The enterprise should have adequate Risk Financing tools to finance losses arising out of retained risks.

Building up capital is the best risk financing method. Increased capital would increase the enterprise's ability to tide over adversities. Developing access to credit is another method of risk financing. Alternative Risk Transfer instruments are also available in the market to fund losses from retained risks. The enterprise could also build up dedicated reserves to address retained risks.

In concluding our discussion on Risk Management, we could say, Risks are first identified, evaluated and treated. Treatment could be by Mitigation, Transfer or Retention, or a combination of all these options. Insurance is one of the most important Risk Transfer Mechanism.

Test Yourself 1

An entrepreneur does not export his goods in order to remain secure from losses due to foreign exchange fluctuations. Which Risk Management strategy is he adopting?

- A Avoidance
 - B Mitigation
 - C Transfer
 - D Retention
-

2. Learning what Insurance is, and how it works

Learning Outcome (b)

WHAT IS INSURANCE?

Insurance is a formal arrangement of sharing losses among the many people who are exposed to the same kind of risks. Informal arrangements of loss mitigation exist in all societies, big and small.

- In a small village, when a breadwinner of the family unfortunately dies, the villagers pool their contributions to help the family tide over the immediate difficulties till they are back on their feet.
- As a nation, we contribute to help poor citizens who lost their belongings during floods or earthquakes.

All such arrangements are voluntary, informal, unorganised, and sometimes unreliable.

Not every family who lost a breadwinner could be helped out. Not every villager who lost his property in a flood could be bailed out. Some are, and some are not. It depends on a host of factors. During times of distress, when everyone is hard pressed for money, not much help from society could be relied upon.

Insurance has evolved as a formal mechanism which overcomes such anxieties caused by depending on the goodness of other kindred souls during times of distress. Insurance is a reliable, organised, formal arrangement of sharing losses.

Insurance is a contract, whereby the Insurer, for a consideration called premium, agrees to make good, the loss suffered by the Insured, arising out of an Insured Peril. This definition is packed with insights, and each word is important.

- Insurance is a contract
- whereby the Insurer,
- for a Consideration called Premium
- Agrees to Make Good the Loss
- Suffered by the Insured
- Arising out of an Insured Peril

Insurance is a contract. Insurance is an agreement between two parties: the Insurer and the Insured customer. An agreement which is enforceable at law is called a contract. We will later see what are the elements that make a contract. For the present, it bears remembering that insurance is a legally enforceable agreement, a contract, between the Insurer and the customer who is called the Insured.

Premium is the Consideration for the Insurer. A contract requires a consideration for both the parties. When A sells his house to B, the money A

receives is the consideration for A to sell the house, and the house that B receives is the consideration for B to pay the money. In Insurance, the Premium that the Insurer receives is the consideration for the Insurer. The promise made by the Insurer to make good the losses of the Insured is the consideration for the Insured.

Insurer Agrees to make good losses. No Insurer agrees to prevent losses. Or, no Insurer promises that losses would not happen. The Insurer only agrees to make good losses. The words "make good" have some special significance. In insurance, an insurer agrees to indemnify the losses. Indemnity means placing the Insured in the same financial position as he was prior to the occurrence of the loss. Indemnity is the technical word used to denote making good the loss.

Suffered By the Insured

In order to claim insurance money, a loss should be suffered by the Insured. If the Insured does not suffer a loss, no amount is payable. This is the basis for Insurable Interest, one of the basic Principles of Insurance, which would be discussed later. If the Insured insures someone else's property in which he has no interest, and if the property is lost by an Insured Peril, the Insurer will not pay, because the Insured would not have lost anything, as the property does not belong to him.

Insurer makes good only those losses that arise from an Insured Peril

No Insurer agrees to make good every kind of loss. In fact, no Insurance Policy exists which agrees to make good every kind of loss without exception. Even the widest cover available excludes a few types of losses. The Insurer only agrees to make good losses arising out of an Insured Peril. While a property could be lost due to multiple causes, which are called Perils, the Insurer agrees to compensate only those losses which are caused by Insured Perils. Losses caused by uninsured or excluded Perils are not covered by insurance. Therefore, the Insured does not agree to make good all kinds of losses, but only those losses that are caused by an Insured Peril.

HOW DOES INSURANCE WORK?

We saw what Insurance is. It is a formal mechanism where the Insurer agrees to compensate the loss suffered by the Insured. In insurance, the loss payable could be many times the amount of premium paid by the Insured. How does the Insurer pay more than the premium received? The Insurer could do it, because they collect premium money from various persons who are exposed to the same kind of risk, but not all people facing the same risk suffer losses.

- Hundreds of cars are insured, not all the cars meet with accidents.
- Hundreds and thousands of lives are insured, not all insured die.
- Nor do all the people who are insured under health insurance get hospitalised.

In such cases involving fortuitous events, only a small percentage of the people insured suffer losses. The key to a successful insurance operation lies in determining what is this percentage of people who suffer losses.

How can an Insurer determine this percentage? Is there a magic formula which tells the Insurer what this percentage will be? As a matter of fact, yes, there indeed is a magic formula. It is called the Law of Large Numbers.

LAW OF LARGE NUMBERS

Jakob Bernoulli made a great contribution to the field of mathematics and insurance by publishing his Law of Large Numbers. The work was published in 1713, eight years after Bernoulli's death in 1705.

The Law of Large Numbers states:

“As the number of trials of a random process increases, the percentage difference between the expected and actual values goes to zero.”

This Law could appear formidable and perplexing, but when explained how it works, it becomes easier to comprehend.

What is a random process? Random means purely dependent on chance and independent of any other event. Take the example of tossing a coin. It is a random process. Nobody knows what the outcome could be. It could be a head, or it could be a tail. Nobody can say with certainty the outcome of a toss before it is tossed.

Similarly, rolling a die could get us any value from 1 to 6.



Before rolling the die, nobody knows what the outcome could be: It could be 1, 2, 3, 4, 5 or 6.

Rolling a die or tossing a coin are trials of random processes.

To understand the Law, let us consider an experiment of tossing a coin many times.

Let us start with tossing the coin ten times. In the case of tossing a coin, all of us know that the probability of getting a head is $\frac{1}{2}$ or 50%. Hence, the expected outcome is 50%.

- Does it mean that when we toss a coin ten times, we would get five heads? No. It could be 7 heads and 3 tails, or 3 heads and seven tails, or 4 heads and six tails. Rarely, it could even be ten heads and zero tails; or ten tails and zero heads.

| NUMBER OF TRIALS | NUMBER OF HEADS | ACTUAL OUTCOME | EXPECTED OUTCOME | DIFFERENCE |
|------------------|-----------------|----------------|------------------|------------|
| 10 | 4 | 40.00% | 50.00% | 10.00% |
| 100 | 45 | 45.00% | 50.00% | 5.00% |
| 1,000 | 470 | 47.00% | 50.00% | 3.00% |
| 10,000 | 4,800 | 48.00% | 50.00% | 2.00% |
| 1,00,000 | 49,000 | 49.00% | 50.00% | 1.00% |
| 10,00,000 | 4,95,000 | 49.50% | 50.00% | 0.50% |

Table 3

- But when we toss the coin a hundred times, it is very unlikely that one could get hundred heads out of the hundred trials. It could be 45 or 55, or some other number, but the number of heads is more likely to be closer to 50.

As an illustration, the number of heads in a given number of trials is furnished in Table 3.

It could be noticed from Table 3 that as we increase the number of trials, the difference between the actual outcome-which is the % of the number of heads, and the expected outcome, which in this case is 50%, will keep coming down. As the number of trials increases, the difference decreases.

How does the Law of Large Numbers Apply to Insurance?

In the experiments with tossing a coin, we know a priori, that the probability of getting a head is 50%. So do we know, even before conducting the experiment, that the probability of getting a 3 in rolling a die is 16.67% ($1/6 \times 100$).

Not in all experiments to calculate the probability of a future loss from an exposure, do we have such a priori knowledge. But Insurers do estimate the probability for the occurrence of a future event even where prior knowledge of future events does not exist. How do they do it?

They estimate such probabilities, by studying past data. But such an estimate would be valid only if the past data studied is for a large number of past exposures for a longer period.

This is where the Law of Large Numbers is significant. Remember, as the number of trials is higher, the difference between the actual outcome and the expected outcome gets lower.

Therefore, if an Insurer wants to determine the probability of the number of accidents in a particular model of a car, they cannot just study past loss experience for 100 vehicles and come to a conclusion that out of 100 vehicles 4 vehicles meet with an accident. The actual number of accidents could later turn out to be 6, 7, or 8; or it could be considerably less than the estimated number of 4, being 1, or 2. In either case, the deviation from the expected outcome of 4 accidents per hundred vehicles insured could be high and could present challenges to the Insurer.

- If the actual number of accidents is much higher than the estimated probability of 4 accidents per hundred vehicles insured, the losses could be more than anticipated.
- If the actual number of accidents is much lesser than the estimated probability of 4 accidents per hundred, the premium, based on the estimated probability of accidents, could be much higher than the premium charged by competitors.

Hence, to properly estimate the probability of losses, the Insurer should study a large number of past exposures. The larger the number of past records studied, the better would be the estimate. The larger the number of past records studied, it is more likely that the actual % of losses would be nearer the % of losses estimated.

In order to have a better estimate, not only should large number of past records be studied, the records should also be spread over a long period of time.

For instance, in the year 2020, due to the pandemic outbreak and the ensuing lockdown, the number of vehicles plying on the road was less, the number of accidents could have been less too. Even if an Insurer had studied a large number of motor risks underwritten in the year 2020, their estimate could go wrong, because the year for which they studied the experience- 2020, was an exceptional year.

Therefore, if an Insurer studies records over a longer number of years, such outliers would be evened out, and a better estimate of the probability of future losses could be obtained.

To sum up:

- To estimate the Probability of loss from the risks underwritten, the Insurer should study past records of risks underwritten

- The larger the number of records studied, the better is the likelihood that the % of actual number of losses in relation to the number of risks underwritten will be nearer the estimated % of losses.
- The longer the period over which such records are studied, the better would the estimate be, as the effect of certain special features and outliers are moderated when the data relates to a longer period.

How Things Can Go Wrong

The Law of Large Numbers is not a magic formula that Insurers use to estimate the probability of future occurrences. A few important points should be borne in mind; otherwise the Insurer could have more losses than anticipated.

- The Law of Large Numbers is not a physical law; it is a statistical law. Physical laws are reliable across geographies, across situations, across time. The sun rose in the east thousands of years back. The sun will rise in the east tomorrow. The sun will rise in the east thousands of years hence. But the same cannot be said of statistical laws. They are estimates, and estimates are never precise. Statistical laws are not accurate like physical laws. And if the sample is not random, or if the study has some infirmities, the estimate could go wrong. Even in the best of estimates, future events cannot be accurately predicted. They could at best be estimated. And as we saw, the larger the data studied, and the longer the period over which the data relates to, the better will the estimate be.
- Past may not be indicative of future. No matter how many records were studied, and over how long a period they were studied, the estimate could go seriously wrong if there is a disruption or upheaval. For instance, an Insurer's estimate on the number of hospitalisations could go seriously wrong in a year of pandemic, especially a pandemic which is unforeseen in the past century. Such upheavals could upset the estimates. Terrorism, Cyber Crime, Climate Change and such other emerging risks could also spring nasty surprises. The Insurer should factor in the vulnerability of the model to such external shocks and adjust the probability estimates.
- Even if there is no disruption, certain changes in behaviour and circumstances that happen over a period of time should be factored in estimates for the future. Number of accidents could be coming down because of better driving behaviour, cars with better safety devices, and improved road conditions with four lane and eight lane tracks. Such trends should be accounted in the estimate.
- As mentioned, physical laws are universal. The law works in the same way at a small scale or at a large scale. But the Law of Large Numbers is not a physical law, therefore even if an Insurer properly estimates future loss probabilities based on the study of large number of past data, the actual

experience could have a high deviation from the estimated probability, if the Insurer underwrites only a small number of risks.

This is an important point to be remembered. The Law works only when large number of risks are studied, and the law works only when large number of risks are underwritten. For example, based on the Insurer's study of past risks running to thousands, they estimate that 3 persons die in a year, out of thousand persons insured. Based on this data, if an Insurer underwrites only thousand lives, the number of deaths may be much beyond 3. The reason for such wide deviation is that the Law of Large Numbers is valid not only for studying past data, but also in realisation. The higher the number of risks underwritten, the better would be the estimate. Hence, an Insurer should not only study large volume of data, but also should write a large number of risks, so that the actual % of losses is close to the estimated % of losses.

- Catastrophes are estimated by studying past catastrophic losses. But, because of value build up and accumulations, such catastrophic losses could be more than estimated. To some extent this risk of underestimation could be mitigated by securing higher reinsurance support.
- In liability claims, the quantum of losses is determined by prevailing liability jurisprudence. The scope of cover for liability risks is increasingly expanded by more and more consumer friendly judgements of the Courts. Such judgements become the laid down law and could steeply increase the amounts of losses.

How Insurers Address Estimates Gone Wrong

A prudent Insurer is fully aware of the limitations of estimating future events based just on past data. They therefore secure their company from such vagaries with different solutions:

- A relatively new Insurer, who could not write large volumes of business, obtains quota share reinsurance support till they expand their market to critical threshold levels.
- Emerging trends are closely watched and accounted for in the estimates.
- Apart from the Company's past data, other data from industry bodies, data from public domains like those on Road Traffic Records, Health Records, Death Records, emerging Court Rulings are studied and their impact is included in the estimates.
- Reinsurance support for Catastrophic events is secured in good measure to provide for big losses.
- Alternative Risk Transfer Mechanisms are resorted to, for buffering the resources available, to meet unexpected contingencies.

- Technology keeps developing at a fast pace, and many excellent tools for data analysis and predictive modelling are available now which enhance the estimating capabilities of the Insurers.
- Actuaries are professionals who specialise in properly estimating future probabilities and actuarial science too has evolved to be more effective in preparing better estimates of future losses.
- Lastly, no matter what safeguards are instituted, still the actual losses could be much higher than those estimated. The Insurance Company should keep increasing its capital and building up its reserves to handle such underwriting shocks.

Test Yourself 2

Which of the following statements is incorrect?

- A Probability of future losses is better estimated if the number of records of past losses is higher
 - B The longer the period over which the data is studied, the more effective would be the estimated probability of future events
 - C Losses from emerging risks cannot be accurately predicted
 - D The estimated probability will be effective even if the number of risks underwritten is low
-

3. Understand the need for and the benefits of Insurance

Learning Outcome (c)

WHY DO WE NEED INSURANCE?

We have studied what is insurance, what is risk, what is risk management and how insurance works. We will now examine why we need insurance.

Protection

Why do we need insurance? A person with a reasonable amount of income could afford to face the loss of her bicycle. But she might not be able to face the loss of her automobile. Each person, like each enterprise, has some capacity to bear some losses. What is the amount of loss that a person could face herself depends upon her income, risk appetite and level of affluence. No matter how affluent a person is, there are still some losses which are beyond what she could bear.

Insurance is thus needed for protection. Similarly, the family of the breadwinner could be left in penury if she suddenly dies. Life Insurance, by paying an agreed sum of money on the death of the breadwinner, provides security to the family.

Like individuals, enterprises too need protection to tide away unforeseen losses such as those caused by Fire, Flood, Burglary, Liability and other such Perils. Insurance provides protection to these enterprises.

Stability

An enterprise should record consistent results to satisfy the needs of the investors. Insurance insulates the enterprise from volatilities caused by unforeseen losses. But for insurance, the results of an enterprise could have wild swings because of adverse events causing losses. Insurance, by compensating such losses, provides stability to the enterprise and to its operations.

Capital

An enterprise does not function for a limited purpose with a limited mission. It should carry on its business for many years so as to build up trust and credibility in its operations. If there is no insurance, enterprises need to maintain a high amount of capital to meet unforeseen losses. Insurance, by compensating them from unforeseen losses, eases the capital requirements of the enterprise.

Lending

A financial institution lends money to an enterprise to buy assets for its business. These assets such as Building, Plant and Machinery and Stock are primary securities, based on which the institutions lend money to the enterprise. But if these primary assets are imperilled, the lending institutions would face difficulty

in recovering the loan. Insurance, thus, facilitates lending by securing the assets funded by such loans.

Legal Compliance

Insurance is mostly optional. But in certain cases, insurance is mandatory. For example, the Motor Vehicles Act stipulates that no vehicle shall ply on the road without insurance. The Environment Protection Act mandates all enterprises handling hazardous goods beyond a threshold level to have such exposures insured. The Real Estate Regulation Act requires the Promoter to avail Title Insurance for the Land and Building.

Insurance thus facilitates compliance with such laws which are intended to secure the benefit of the public from accidental losses caused by negligence.

Contract Requirements

Some contracting parties also stipulate that the enterprise with whom they are contracting possess adequate insurance to insulate the other parties from composite liabilities and also to protect their resources engaged in the project.

BENEFITS OF INSURANCE

Savings

Most importantly, Life Insurance has evolved as a saving cum risk instrument. Many life insurance policies such as Endowment Policies and Unit Linked Insurance Policies, apart from providing risk coverage, also provide attractive savings alternatives over a long period of time. Life Insurers, with their competencies on managing funds over a long period, provide savings instruments spanning over decades. These kinds of plans encourage people to save, in addition to providing security to their families in terms of risk coverage.

Loss Minimisation

Because risks get transferred to the Insurers, the losses arising from these risks too get transferred to them. In paying out many losses, Insurers acquire expertise on how losses are caused and on the ways to minimise them.

The rating mechanism of the Insurers promotes loss reducing behaviour by charging less for those who are less prone to losses, and more to those who are more careless. Features like Deductibles and Co Pay too incentivise customers to reduce losses.

In fields like health insurance and auto insurance, by networking with service providers like Hospitals and Garages, Insurers strive to bring down the cost of losses. Insurers even collaborate to reduce incidences like cyber crime and piracy.

Investments

Perhaps the most noteworthy benefit of Insurance is that it provides a significant source of money for long term investments needed for critical sectors such as infrastructure. In Life Insurance, most of the contracts are spread over a long period of time, and the accumulated savings of the customers are invested in secure long term investments. This provides a great support to the economy. The role of Insurers of Life, Pension, Annuity and Non-Life in developing the economy is stellar.

Security

Insurance is a trade off. The customer who faces the probability of an unknown loss is willing to take on a known loss. The known loss here is the amount the customer pays for the insurance premium. Why does she prefer this trade off?

- Because, a future loss is unknown in terms of:
 - When will it occur?
 - Where will it occur?
 - What would be the amount of loss?
 - Sometimes, the loss could be too big to bear.

The customer prefers to incur a definite small loss called premium so that she is financially protected from an unknown, indefinite loss.

Insurance is a trade off between a certain loss now, instead of an uncertain loss in future. The individual who insures herself, incurs a definite amount of expenditure towards the insurance premium. But by so incurring this definite, small amount of expenditure, she is securing herself and her family against losses caused by unforeseen future events such as death, fire, flood and earthquake. Insurance thus secures the individual and her family.

Social Security

Insurers work actively with Governments in providing the vehicle for loss mitigation. Many Government Schemes such as Health Insurance, Disaster Relief, and Life Insurance for the poor and other weaker sections of the society are run by Insurance Companies. Insurers, with their specialised knowledge on causes of losses, assessment of compensation payable and identification of the beneficiaries are better equipped to channelise the efforts of the Government to provide relief to those affected.

Trade, Commerce and Industry

Insurance facilitates the growth and development of Trade, Commerce and Industry. By diversifying risks across geographies and sectors, insurance brings down the cost of losses. By providing insurance cover, insurance facilitates credit. And by providing liability coverage, insurance helps the enterprises face

large liability exposures. Insurance provides security to lending institutions, enterprises and individuals by covering their exposures.

Test Yourself 3

Which of the following laws does not make insurance compulsory?

- A Motor Vehicles Act
- B Marine Insurance Act
- C Environment Protection Act
- D Real Estate Regulation Act

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is A.

By choosing not to export, the entrepreneur is avoiding exposure to currency fluctuations.

Answer to Test Yourself 2

Correct Answer is D.

Even if the exercise of estimating future loss probabilities is properly carried out, with a large volume of records, over a long period of time, if the number of risks underwritten, based on such estimates, is less, the difference between actual outcome and expected outcome could be significant. The Law will work only when sufficiently large number of risks is underwritten.

Answer to Test Yourself 3

Correct Answer is B.

Marine Insurance Act only lays down the law on the conduct of Marine Insurance business, but it does not make Marine Insurance compulsory.

Summary:

Insurance is a mechanism to share the losses of a few among the many who are exposed to the same kind of risks. In the insurance context, Risk is the possibility of deviation from an expected outcome which causes a financial loss. Risk Management is the discipline of identifying and treating different types of risks.

Insurance works on the Law of Large Numbers. This Law is not a scientific law, but a statistical law. Its limitations should therefore be recognised, and appropriate safeguards should be instituted in estimating probabilities of future loss events.

Insurance is needed by the individual and the enterprise for multiple reasons such as security, stability and savings. The benefits provided by insurance are also manifold.

Self- examination questions

Question 1

Which of the following is a speculative risk?

- A. Damage to property by rioters
- B. Damage to the information system by hackers
- C. Loss of market due to change in fashion
- D. Loss of Profit due to reduced turnover following a fire loss

Question 2

The loss should be suffered by the Insured. This is the Principle of

- A. Utmost Good Faith
- B. Insurable Interest
- C. Indemnity
- D. Proximate Cause

Question 3

A priori means

- A. Knowledge by experience
- B. Knowledge by experiment
- C. Knowledge considered to be true without being based on previous experience
- D. Unknown

Question 4

Who is an Actuary?

- A. A professional who estimates the probabilities of future losses
- B. A mathematician
- C. A professional who predicts the future
- D. A professional who invents the formula for calculating future losses

Question 5

Which of the following is a random event?

- A. Rise of the sun
- B. A terrorist act
- C. Rusting of iron
- D. Decay

Question 6

Stability means?

- A. Volatility
 - B. Steady
 - C. Adversity
 - D. Fluctuation
-

Answers to self-examination questions:

Answer to Question 1:

The correct option is C.

Others are Pure Risks and Insurable.

Answer to Question 2:

The correct option is B.

Insurable Interest means the loss should be suffered by the Insured.

Answer to Question 3:

The correct option is C.

You need not conduct an experiment to calculate the probability of getting a head in a toss of a coin. You know it a priori.

Answer to Question 4:

The correct option is A.

Actuaries estimate probability of future losses. They cannot predict the future.

Answer to Question 5:

The correct option is B.

Others are not random events as they are certain to occur.

Answer to Question 6:

The correct option is B.

Stability means being steady.



CHAPTER 2

RISK, PERIL, AND HAZARD, RISK CLASSIFICATION AND RATING

Chapter Introduction

In the previous Chapter, we have studied what is Risk. Risk is the possibility of an adverse deviation from an expected outcome. In the context of Insurance, Risk is the possibility of a deviation from an expected outcome resulting in a financial loss. And we did learn that not all risks which cause financial losses could be insured. Only Pure Risks could be insured. And not all Pure Risks could be insured. Only those risks which share certain characteristics make them insurable. What characteristics make a Risk Insurable?

■ Learning Outcomes

- a. Study the characteristics that make a Risk Insurable
- b. Understand what is a Peril, what is a Hazard, and what is the relationship between Risk, Peril and Hazard
- c. Understand Risk Classification



1. Study the characteristics that make a Risk Insurable

Learning Outcome (a)

CHARACTERISTICS OF INSURABLE RISKS

We saw that insurance is concerned only with Pure Risks. But not all Pure Risks could be insured. For instance, loss by war is a Pure Risk. It is not something that a civilian voluntarily undertakes. But when his country is attacked by enemy air force, his factory could be bombed and reduced to rubble. This is a Pure Risk. Yet, war risk is mostly not insured. Similarly, some of the other Pure Risks are not insured. What, then, are the characteristics that determine whether a risk is Insurable or not? We will see what these characteristics are:

1. Large Number of Homogeneous Exposure Units

The most important aspect of pooling risks is homogeneity. Homogeneity means the quality of being of a similar kind. Thus, apples are a homogeneous group. Grapes are a homogeneous group.

Why is homogeneity necessary to make a risk insurable? Different risks possess different probabilities of losses. Consider the following example:

Q is a Doctor using his car to drive to his hospital and back. He seldom uses his car for other outings. R too, uses the same model of the car. But R uses it as a Taxi, running several kilometres a day. Both these persons drive the same model of car, but their risks are different. One uses it for personal use, and the other for commercial use. These two are not homogeneous risks.

If these different, heterogeneous risks are grouped together it could result in adverse selection. The pool formed with a group of heterogeneous risks cannot function effectively.

It is therefore necessary that only homogeneous risks that have similar exposures are pooled together so that their loss probability could be more accurately measured.

Secondly, the pool should not only be homogeneous, but it should also have a large number of exposures. We already studied that the Law of Large Numbers would work effectively, only if the number of risks insured is large. If the number is small, the deviation between expected outcome and actual outcome could be quite high. Such high deviations would upset the rating calculations and result in huge losses.

Therefore, to be Insurable, there should be a large number of homogeneous exposures in the pool.

2. Independence among Exposure Units

While studying the Law of Large Numbers, we learnt that the trials should be random. Random means purely dependent on chance, and independent of any other event. Estimating probabilities for future occurrences works only when the events estimated are random and not dependent on the outcome of any other event.

In the case of events or exposures which are interdependent, a loss in one exposure could lead to another loss, and thus cause multiple losses in the insurance pool. Such aggregation, sometimes, could be beyond the capacity of the insurer. Therefore, while pooling exposures, Insurers always look for risks being independent of each other.

Yet, interdependence could not be altogether avoided.

- By design, certain losses lead to another. Thus, a loss under Material Damage Policy could lead to a loss under Business Interruption. An Insurer, before issuing a Business Interruption Policy on a risk on which they are already exposed under a Material Damage cover, should factor in the impact of this interdependence.
- Similarly, a motor vehicle accident could result in damage to the vehicle as well as liability to passengers or third parties.
- Accumulation also happens when fire in one unit spreads to other units located in the same compound. In several lines of business, though the exposures are independent of each other, their location, in proximity to one another, could lead to multiple losses. These occur by the very nature of trade and business, and could not be altogether avoided.

Ideally, risks should be independent of other risks in the pool. Where complete independence is not possible, the Insurer should be alert to the possible threat of interdependence among their exposures. The Insurer should vigilantly identify such risks which are interdependent and have in place remedial provisions, such as reinsurance, or limiting loss per events, to mitigate heavy losses in such interdependent exposures.

3. Expected Losses should be calculable in monetary terms

Insurance mitigates only financial losses. It is true that not everything that we value could be expressed in monetary terms. Loss of a loved life could result in tremendous emotional loss. Yet, though it could sound cold and ruthless, Insurers are not concerned about the emotional, sentimental or psychological value of life or property. They are concerned only with the financial value of life and property. The reason is emotional and sentimental values are highly subjective and hard to measure because these are not tradeable.

Value of human life too could not be strictly measured in monetary terms. Yet, insurers have devised methods to calculate human life value depending on age, income, occupation and financial standing. This method could not reflect a complete measure of a person's worth, but does provide a standard for evaluating the amount of life insurance that could be provided to a person. Apart from human life, other finer things such as works of art too should be expressed in monetary terms in order to be insurable. The rule is, if something of value is to be insured, such value should be expressed in monetary terms.

4. The loss should be definite as to Time, Place, Amount and Cause

Insurance coverage is not for an infinite period. In Life Insurance, it is usually for one year for a Term Insurance, and for a specified duration of say ten, fifteen, or twenty five or more years for endowment insurance. In non life insurance, it is usually for a year. Therefore, to determine admissibility of a loss, the exact date of loss should be determined. If not, there could be disputes on when it happened- during or beyond the coverage. This is the reason why gradually developing flaws are not covered by insurance, because the exact date of loss is uncertain.

Similarly, insurance for certain items like property is restricted to a particular location. Insurers seek to diversify their exposures and are particular about the location at which the risks are covered. Insurers should have definite knowledge on the location at which the loss occurred in order to ascertain their liability. A loss which could not be identified as to the place of its occurrence cannot be insured.

Some of the insurance policies cover only certain named Perils. Some policies cover All Risks, but even such All Risks policies exclude losses caused by a number of Perils. Hence, in order to determine admissibility, the insurer should know the cause of loss. That is why losses like mysterious disappearances are not covered.

There should thus be some finality on the time, place, amount and cause of loss. If any of these aspects of a loss is indeterminate, such risks could not be covered.

5. Fortuitous Events

The losses covered by insurance are those that are unforeseen, accidental, unexpected, and fortuitous. Insurance is for covering an unforeseen loss. If a loss is not fortuitous or unexpected, it means it is expected, or more likely to happen.

And if such expected losses are covered, insurance would become unsustainable. The premium for covering a certain loss would be more than the amount of loss, and hence would not find buyers.

Insurance is for covering events whose probability of occurrence is between zero and one. The nearer it is to zero, the better for insurers. If a loss is definite to

occur, it is no more fortuitous and hence insurers would not be covering such losses.

6. Economic Feasibility

The risk offered for insurance should be economically feasible. There should be adequate exposures, and there should be a market where buyers are willing to buy insurance at the rates offered. Some risks could not be economically feasible:

- If the risk offered for insurance has a high probability of loss, the premium would be very high and hence could not generate a large number of buyers.
- There are many risks which have high frequency and low severity. Such high frequency risks end up in huge number of small losses. And each of these losses is to be assessed, adjudicated and paid. The cost of administering such a large volume of claims with low severities could make them uninsurable, as the high cost of claims administration makes them economically infeasible.
- There could be some unique risks which a customer wants to be transferred to the insurance mechanism. But because such risks are unique, there would not be a large number of similar exposures. In such cases, designing cover for such unique exposures would not be economically feasible.

Designing an insurance product has its own cost in terms of investment of time, money and effort in designing, developing, drafting and promoting a product. An insurable risk should therefore be economically feasible. Economic feasibility means:

- The Premium charged should be affordable by the customers
- There should be a large number of similar exposures
- There should be a good market for the risks to be insured
- The cover should have ease of use
- The terms of cover should not be so complicated as to result in complexity or endless litigation

7. Losses should not be catastrophic in nature

Some perils cause losses on such a devastating scale that the aggregate losses could be beyond the capacity of the insurance company. It is precisely in such situations that reinsurance companies play a vital role in addressing these capacity constraints. Yet, there are losses which are beyond the capacity of even the reinsurers. Such exposures are best avoided. Losses caused by War or Nuclear Perils could be so heavy and so widespread that it is even beyond the capacity of large reinsurers. Such losses are therefore not insured.

Test Yourself 1

Which of the following is not a characteristic of an Insurable Risk?

- A. Homogeneity
- B. Fortuity
- C. Granularity
- D. Economic Feasibility

2. Understand what is a Peril, what is a Hazard, and what is the relationship between Risk, Peril and Hazard

Learning Outcome (b)

We have studied what characteristics make a risk Insurable. Do remember, in insurance, an Insurer does not promise to compensate the Insured for a loss caused by any Peril. They promise only to pay those losses which are caused by Insured Perils. What is a Peril?

PERIL

When a risk is to be covered, the likely losses are to be studied. Losses are not caused by Risks. Risk is only the possibility of a loss. The losses themselves are caused by Perils.

Possibility of financial loss to the Building is the Risk. The losses to the Buildings are caused by various loss causing agents. Such loss causing agents are called Perils. These could be

- Fire
- Flood
- Lightning
- Earthquake
- Bush Fire
- Forest Fire
- Impact Damage
- Aircraft Damage
- Explosion
- Riot, Strike and Civil Commotion
- Malicious Damage
- War
- Nuclear Attacks
- Terrorism

This list is not exhaustive. There could be many more. But all of these loss causing agents are called Perils. A Peril is something that could cause a loss. In Table 1, we list some of the Risks and some of the Perils which could cause losses.

| RISK | PERIL |
|-----------|--|
| Property | Fire And Allied Perils |
| Property | Burglary, Dacoity, Theft |
| Property | Machinery Breakdown |
| Life | Illness And Accidents |
| Health | Illness And Accidents |
| Liability | Negligence, Breach Of Safety Standards |

| | |
|------------------|-----------------------------------|
| Money In Transit | Dacoity, Hold Up, Robbery |
| Crop | Disease, Flood, Drought |
| Transit | Perils Of The Sea, Damage |
| Automobiles | Accidents, Collision, Theft, Fire |

Table 1: Risk and Peril

While the Insurer covers a Risk, he does not cover all types of losses. Which type of losses could be insured depends upon what Perils cause it. The Insurer, therefore, carefully examines all possibilities of losses a risk is exposed to and identifies the various Perils.

The coverage provided by the Insurer usually spells out each of the Perils that the insurance covers. Such Policies are called Peril Specific Policies or Named Peril Policies. In contrast, there are some Policies which do not name the Perils they cover, they only name the Perils they do not cover. Such Policies are called All Risk Policies.

Whether it is a Named Peril Policy or an All Risk Policy, the Insurer should have knowledge of the Perils that could cause losses in the exposures covered. Therefore, knowledge of all the Perils involved in a Risk is critical.

HAZARD

The Insurer is in the business of compensating losses. He analyses the Perils that a risk is exposed to, and chooses to cover only those losses which are caused by specified Perils. Thus, a Fire Policy covers certain Perils like Fire and Flood, but not War and Earthquake.

Even for the same Peril and the same type of Risk, probability of loss varies depending on some features. These features that increase the probability of loss, and increase the amount of loss, are called Hazards. Take for example two Buildings X and Y. While Building X is made of cement and steel, Building Y is made of Wood. For a Policy covering Fire Peril, Building Y is more hazardous. Wooden construction is the hazard here. It increases the probability of a loss, and also increases the amount of loss.

Take another example, Building Q and Building R. Both are identical buildings, made of cement and steel. But Building Q is far from any waterbody, whereas Building R is near a river. For a Policy covering Flood, Building R is more hazardous. Proximity to waterbodies is the hazard here.

Hazard is therefore a condition that:

- Increases the probability of loss,
- Increases the amount of loss.

Once an Insurer decides to cover a Risk and a Peril, they also study the hazards associated with that Risk and that Peril. Such study of the Hazards in relation to the Risks and Perils covered is an essential exercise in rating.

For each and every coverage, there are some features which increase the probability or amount of loss. Table 2 lists some of the hazards for some of the Perils.

| RISK | PERIL | HAZARD | REMARK |
|------------------------|-------------------|-------------------|--|
| Fire And Allied Perils | Fire | Occupancy | Similar Buildings with different occupancies could have different loss probabilities. (Occupancy means the purpose for which the building is used). For example, Residential houses, shops, restaurants, factories, utilities, storage facilities, offices |
| Fire And Allied Perils | Fire | Storage | Warehouses storing inflammable goods have more hazard than those storing non inflammable goods |
| Fire And Allied Perils | Fire | Construction | Wooden buildings are more hazardous than concrete buildings |
| Fire And Allied Perils | Fire | Location | Goods Stored in Open could catch fire faster than those in enclosed buildings |
| Fire And Allied Perils | Flood | Location | Proximity to Waterbodies, Storage in Basement could be more hazardous |
| Fire And Allied Perils | Earthquake | Seismic Zone | Some Seismic Zones have higher probability of Earthquake occurrences. |
| Life Insurance | Illness | Age | The higher the Age, the higher the probability of Death |
| Health Insurance | Illness | Age | The higher the Age, the higher the probability of Illness |
| Employee Compensation | Injury To Workmen | Trade | Certain Occupations such as Construction work are more hazardous |
| Money In Transit | Robbery | Mode Of Transport | Money Being Carried in Public Transport is more hazardous |

| | | | |
|-----------------|----------|-------------------|--|
| Marine Transit | Damage | Method Of Packing | Liquids carried in bottle are more hazardous |
| Motor Insurance | Accident | Area Of Operation | Certain Zones have higher hazards |
| Motor Insurance | Accident | Usage | Same type of vehicle like a car could be used as a private car, or as a taxi. Taxis have higher exposure, as they are on the road for longer time. |

Table 2: Risk, Peril and Hazard

The importance of hazard lies in classifying risks. Since there is considerable variation even among similar risks, these risks are classified depending upon the hazard to provide for differential rating.

Relationship between Risk, Peril and Hazard

Once a Peril is decided to be covered, the hazards are identified, and each risk is classified depending upon the Peril covered and the hazards relevant to that Peril. Risk Classification first takes into account the Peril to be covered. It then studies the hazards relevant to that Peril. And according to the hazard for that Peril, the Risk is classified.

For example if the Peril to be covered is Fire, height of the building may be relevant as a hazard. But in Flood, the height of the Building may not be a hazard. Risk classification is thus the culmination of the analysis of a Risk, the Perils to be covered and the Hazards relevant to that Risk and that Peril.

In Summary,

- Exposure to the Possibility of a Loss is the Risk
- Cause of Loss is the Peril
- Condition increasing the Probability of a Loss or Aggravating a Loss is the Hazard

Test Yourself 2

Which of the following is a group of hazards?

- A. Storage, Construction, Liability
 - B. Flood, Earthquake, Terrorism
 - C. Accident, Property, Liability
 - D. Age, Method of Packing, Usage
-



3. Understand Risk Classification

Learning Outcome (c)

RISK CLASSIFICATION

Need for Risk Classification

The most important need for classifying risks is to facilitate rating the risks according to their respective loss probabilities.

Risk classification is also necessary to facilitate proper underwriting. Underwriting is the process of evaluating a risk and deciding whether to accept a risk or not, and on what rates and terms. A proper Risk Classification system eases the task of underwriting a multitude of risks that an underwriter should decide upon. Based upon a risk classification, certain underwriting decisions are predetermined without the need for much investment of time and energy on evaluating each and every risk.

And lastly, a proper risk classification system enables study of risk features over a longer period. Risks are dynamic in nature, and their features keep changing with changes in the environment. A good risk classification system helps track the changing features and to update rating variables.

How Are Risks Classified?

Risk Classification is the grouping of risks having the same coverage, based on certain characteristics. Hazard is the characteristic upon which risks are rated. For example, consider a group of identical buildings. Some are occupied as residences, some as offices, some as shops and some as warehouses. All of these buildings have the same coverage- coverage against losses caused by Fire. Therefore, these risks are classified according to their occupancy. Residences are charged the lowest rates, followed by offices, shops and warehouses. These rating considerations depend on the degree of hazard, which in this case is the occupancy.

Thus, hazard is the basis for risk classification.

Identifying and understanding the different hazards for a risk is the first step in risk classification. Past loss experience is studied carefully to see what Perils caused the loss and what hazards were present in those losses. Such a careful study would identify the hazards for a given risk and for a given peril. From such a list, only those hazards which are most relevant are considered. Taking too many hazards into consideration could make the Risk Classification too wide and unwieldy.

In classifying risks, the following factors should be taken into consideration:

Actuarial Factors:

The feature upon which risks are classified should have some relationship with loss probabilities. If a feature does not have any functional relationship with the probability of loss, such feature is not considered for risk classification. For example, in life insurance, the level of education of the insured person is not considered because it has no relationship to death rate. On the other hand, age of the insured person has a definite relationship with death rate, and therefore life risks are classified according to the age of the proposers.

Homogeneity is another necessary condition. If the risks are heterogeneous, bundling them together under one class would result in bad risks being priced at the same rate as good risks. This would lead to adverse selection.

The classification should not compromise predictive stability. The business model of an insurance company rests entirely on its competence to predict future losses as correctly as possible. A risk classification which fails to classify risks on their loss probabilities, or which is not rooted on sound actuarial analysis could result in compromising the predictive stability of the system.

Objectivity

Classification of risks should be based on objective criteria. Objectivity would mean measurability on some acceptable standard. Objectivity would also reduce subjective considerations which could differ from underwriter to underwriter. Objectivity would also enable the market force to understand the criteria upon which the risks are rated, thereby facilitating identification of the different customer segments.

Fairness

The rating should be fair. Fairness in risk classification would mean that similar risks with similar loss probabilities are rated similarly. It would be unfair for the less loss prone to share the losses of the adventurous. In property insurance, for instance, if shops, which have a higher probability of a fire loss are priced at the same rate as residences, which have a lower probability of a loss, homeowners are paying more than their share of losses. This is not fair, and such an unfair system would soon break down due to adverse selection.

Dynamic

A risk classification system should not be fossilised. Risks undergo changes due to changes in the environment. Technology, human behaviour, laws, emerging trends, economic development and competition keep interacting with the risk and what was relevant a few years back might not be relevant at present. A change in law could increase or decrease losses. Increased four lane and eight lane roads could reduce losses. Improved packing could reduce transit losses.

Cyber losses could increase. Such changes in the risk features should be discerned and identified, and the risk classification should be suitably updated.

Regulatory Compulsions

Regulatory and Judicial agencies are increasingly consumer friendly and foster an environment where the consumers are provided a fair compensation in case of loss. These considerations to protect consumers' interest result in rigorous processes mandated by the Regulator. A risk classification system should incorporate such considerations.

Simplicity

Risk classification should result in a simple rating and underwriting mechanism. The main purpose of a risk classification system is to group risks according to their loss probabilities. Simplicity should not be compromised in the Insurer's endeavour to achieve a highly accurate risk prediction tool. Ultimately, each risk is unique. But, insurance is a mechanism of pooling similar exposures. The pool so formed should be big enough to warrant the application of law of large numbers and small enough to accommodate the risk characteristics unique to that group. Since insurance is all about sharing of losses by a sufficiently large group, some balance must be achieved between scale and granularity.

Test Yourself 3

Which of the following is not a requirement for Risk Classification?

- A Simplicity
 - B Complexity
 - C Objectivity
 - D Fairness
-

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is C.

Granularity is not the characteristic of an Insurable Risk. Other characteristics like Homogeneity, Fortuity and Economic Feasibility are characteristics

Answer to Test Yourself 2

Correct Answer is D.

Other groupings have one or more elements which are not hazards. D is the only grouping with all the hazards.

Answer to Test Yourself 3

Correct Answer is B.

Complexity will make the Risk Classification difficult to use.

Summary:

Not all risks are insurable. Only those risks that cause financial losses are insurable. Even among those risks which cause financial losses, only those caused by Pure Risks are insurable. Even among Pure Risks, only those that conform to some characteristics like homogeneity, fortuity, economic feasibility, fortuity and to such other characteristics are insurable.

Risk, Peril and Hazard are interlinked.

- Exposure to the Possibility of a Loss is the **Risk**
- Cause of Loss is the **Peril**
- Condition increasing the Probability of a Loss or Aggravating a Loss is the **Hazard**

Once an Insurer decides to cover a Risk, they study the various Perils that could cause a loss, and identify the Hazards that could increase the probability of the loss or aggravate the loss.

Such identification of the Hazards help Risk Classification. Risk Classification facilitates rating. A good Risk Classification system should adhere to certain standards like Actuarial considerations, Objectivity, Fairness and Simplicity. They should also be dynamic and should conform to Regulatory stipulations.

Self-examination questions

Question 1

Which of the following is not a homogeneous group of risks?

- A. A group of people of different ages
- B. A group of cars used as taxis
- C. A group of containers containing textile goods
- D. A group of students in Class X

Question 2

Which of the following does not result in Accumulation?

- A. Goods stored in the same warehouse at the port of discharge
- B. Different factories in the same compound
- C. Different vehicles insured in different cities
- D. Buildings on the same riverfront

Question 3

Which of the following might not result in a catastrophic loss?

- A. Earthquake
- B. Terrorism
- C. A small factory located in a remote area
- D. Flood

Question 4

Which of the following is not a Risk?

- A. Property
- B. Flood
- C. Liability
- D. Life Insurance

Question 5

Which of the following is not a Peril?

- A. Fire
- B. Proximity to water bodies
- C. Terrorism
- D. Riot

Question 6

How are Risks Classified?

- A. Based on Competition
 - B. Based on Marketing Strategy
 - C. Based on Hazards
 - D. Based on Amount of Loss
-

Answers to self-examination questions:

Answer to Question 1:

The correct option is A.

A group of people belonging to different ages is a heterogeneous group

Answer to Question 2:

The correct option is C

Different vehicles in different cities are independent risks and do not pose an accumulation risk.

Answer to Question 3:

The correct option is C.

A small factory located in a remote area might not result in a catastrophe.

Answer to Question 4:

The correct option is B.

While others are Risks, Flood is a Peril.

Answer to Question 5:

The correct option is B.

Proximity to water bodies is a Hazard and not a Peril.

Answer to Question 6:

The correct option is C.

Risks are generally classified based on the degree of hazard they are exposed to.



CHAPTER 3

RATING AND PRICING INSURANCE PRODUCTS

Chapter Introduction

We know what a risk is, and how it is classified. The Risk classification is done to facilitate rating and pricing insurance products. In this Chapter, we will understand the principles that govern the rating and pricing exercise.

■ Learning Outcomes

- a. Understand the elements of cost for an insurance product
- b. Learn what is Frequency and Severity and their relationship to Burning Cost
- c. Understand how Pricing is computed from Burning Cost



1. Understand the elements of cost for an insurance product

Learning Outcome (a)

Pricing Insurance is different, difficult

There is a fundamental difference between pricing other products and pricing insurance products. In many products and services, the cost is known before they are sold. The seller can add up the costs and determine the price, after providing a margin for profits.

In insurance, the sale takes place first, and the cost comes later. In some insurance products like long tail liability, the final amount of total claims paid on policies sold during a year would be known many years later. Yet, the insurer should price it when they sell it, no matter what the ultimate cost of claims and other expenses could be. They cannot go back to the customer and ask for additional premium even if the losses are much more than expected. This is a very challenging situation, and yet this is how insurers should price their products.

The entire process of risk classification, rating, pricing and underwriting are thus critical activities and any laxity in discharging these functions could undermine the very existence of the insurance entity.

We saw the purpose of Risk Classification is to realise premium commensurate with the nature of the risk. The higher the risk, the higher the premium; the lower the risk, the lower the premium. We will now see how rating and pricing work. Rating and Pricing are complex activities which require lot of skill, expertise and diligence. The examples we have provided in this Chapter are to understand the concepts behind pricing. In reality, pricing is more complex, and professionals like Actuaries have the training and expertise to undertake this complex exercise.

Elements of Price for an Insurance Product

Price of an Insurance Product depends on four components:

- The amount of claims that would be paid for the risks underwritten. This is called Burning Cost
- The cost of acquiring the business for the company. Just like any other business, insurance also needs to be sold. While some of the insurance business could be sold by the Insurer directly to the customer, a major part of the business is brought in by intermediaries. These are Agents, Brokers, Web Aggregators and other insurance distributors. They must be compensated for bringing the business to the insurers. These costs are called Acquisition Costs- the cost of acquiring the business by paying Commission and Brokerage.

- The cost of operations of the insurance business. These include the salaries of the insurance company executives, Technology costs, rent, electricity and other operating costs.
- Profit is the objective of any insurance enterprise. The pricing should provide a margin for uncertainties and errors in pricing and also for claims cost exceeding that projected. In addition, a margin for profit is also to be included.

Test Yourself 1

Which of the following is not an Insurance distributor?

- A. Agent
 - B. Broker
 - C. Reinsurer
 - D. Web Aggregator
-

2. Learn what is Frequency and Severity and their relationship to Burning Cost

Learning Outcome (b)

Burning Cost

The first exercise in pricing is deriving the Burning Cost. Burning Cost is the total amount of claims that would be paid for the risks underwritten. The total cost is the ultimate cost- the amount borne by the insurance company for discharging all its commitments under the Policy underwritten, after recovery from salvage and reinsurance, and after adding claim related costs such as Survey Fees and Advocate Fees.

Ultimate Claims Cost= Claims cost+ Survey Fees+ Advocate Fees - Salvage-Recoveries like those from carriers and others under Subrogation Rights-Recovery from Reinsurers.

There are two elements to calculating Burning Cost. The first is Frequency and the next is Severity. Both these elements are to be computed for each group of risks classified under Risk Classification.

Frequency

Frequency is the rate of accidents for a given number of exposure units. The term exposure unit means the units of risk which are exposed to the probability of a loss. Therefore if a group of 1000 employees are insured under one group life insurance policy, the exposure unit is not one, but 1000. Exposure unit could thus be life, vehicle, cargo, ship, houses, factories, etc. The total number of losses for a given number of exposure units for a given period, say one year, is to be considered. The number of losses divided by the number of exposure units gives us the Frequency.

$$\text{Frequency} = \frac{\text{Total number of losses in a year}}{\text{Total number of exposure units}}$$

In short, frequency indicates the rate of losses for a given number of exposure units. When stated in percentage, it indicates the number of losses that could occur in hundred exposure units during a year.

Severity

While Frequency tells us about the number of losses expected in a given number of exposures, it gives no indication on the amount of loss.

In Life insurance, the amount of loss payable on the occurrence of an insured event is specified in the Policy. The Sum Insured is usually paid in case of the death of the Life Assured.

Nonlife insurance policies are mostly indemnity policies. In indemnity policies, the loss payable is the monetary value of loss suffered by the insured, subject to certain deductions like Depreciation, Deductibles and Policy Limits. The amount of loss payable in nonlife insurance would therefore vary from loss to loss. A loss could be total, in that the entire Sum Insured becomes payable. Another loss could be marginal, in that only a small percentage of the Sum Insured is payable. Since the quantum of loss varies from case to case, the average amount of loss should be calculated.

In calculating the average amount of loss, care should be exercised to make sure that exposure units are grouped according to their coverage. Thus, for Health Insurance, the exposure units should be grouped according to the Risk Group- the different age groups according to which health risks are classified. Next within a particular age group, the groups should further be segmented into the different Sums Insured, and only then should the severity of loss for each group be computed.

Since Severity is the Average amount of loss for a given risk group for a given period, the formula for Severity is:

$$\text{Severity} = \frac{\text{Total amount of losses in a year}}{\text{Total number of losses in a year}}$$

Severity will indicate the average amount of loss to be expected in a group of exposure units.

BURNING COST

Burning Cost is derived by multiplying Frequency and Severity.

$$\text{Burning Cost} = \text{Frequency} \times \text{Severity}$$

We already know that

Frequency is

Number of Losses/ Number of Exposure Units.

And we also know that,

Severity is

Total amount of Losses/ Number of Losses.

Therefore,

$$\text{Burning Cost} = \text{Frequency} \times \text{Severity}$$

$$= \frac{\text{Total number of losses in a year}}{\text{Total number of exposure units}} \times \frac{\text{Total amount of losses in a year}}{\text{Total number of losses in a year}}$$

$$= \frac{\text{Total amount of losses in a year}}{\text{Total number of exposure units}}$$

The numerator in the formula for Frequency and the denominator in the formula for Severity are the same. They cancel each other out. Therefore,

$$\text{Burning Cost} = \frac{\text{Total amount of losses in a year}}{\text{Total number of exposure units}}$$

Calculating Burning Cost is illustrated with the following example:

- Assume that there are 10,000 identical cars.
- All are of the same model, same make and same date of registration.
- Each car is valued at ₹5,00,000
- All these cars are insured only against the risk of Theft
- Analysis of past data shows that 5 cars are stolen out of 10000 cars
- What should be the Burning Cost?

First frequency of theft losses is to be calculated.

$$\frac{\text{Frequency}}{\text{Exposure Units}} = \frac{\text{Total Number of Losses}}{\text{Total Number of Exposure Units}}$$

$$\begin{aligned} \text{Total Number of Losses} &= 5 \\ \text{Total Number of Exposure Units} &= 10000 \end{aligned}$$

$$\begin{aligned} \text{Frequency} &= 5/10000 \\ \text{Frequency} &= 0.05\% \end{aligned}$$

$$\frac{\text{Severity}}{\text{Losses}} = \frac{\text{Total Amount of Loss}}{\text{Total Number of Losses}}$$

$$\begin{aligned} \text{Total Amount of Loss} &= 5 \text{ Thefts at } 5,00,000 \text{ per Theft} \\ &= 25,00,000 \\ \text{Severity} &= 25,00,000/5 \\ \text{Severity} &= 5,00,000 \end{aligned}$$

$$\text{Burning Cost} = \text{Frequency} \times \text{Severity}$$

| | | |
|--------------|---|--------------------|
| Burning Cost | = | 0.05/100*5, 00,000 |
| Burning Cost | = | 250 |

As we know, another way to calculate Burning cost is

$$\begin{aligned}\text{Burning Cost} &= \text{Total Amount of Loss/ Total Number of Exposure Units} \\ \text{Burning Cost} &= 25,00,000/10,000 \\ \text{Burning Cost} &= 250\end{aligned}$$

If an Insurer collects ₹250 from each of the 10,000 vehicle owners, they would have a corpus of ₹25,00,000 which would be adequate to settle the five theft claims that could arise, paying for each of the five stolen vehicles a sum of ₹5,00,000.

One point should be remembered! This example, and others that follow, are only to illustrate the concepts behind rating and pricing insurance products. In reality, determining the rates for different products is a very complex exercise. Even for rating a single product, there are various factors to be considered:

- Trends in the recent past
- Judicial pronouncements having a bearing on ultimate loss
- Reinsurance arrangements
- Product design
- Changes in insured behaviour
- Coverage terms like Deductibles, Copay
- Changes in cost of claims like auto repair costs, health care costs
- Macro economic variables
- Loss Development Factor- the manner of development of aggregate liability over the claim maturity cycle

All these factors have to be considered and suitable weightage should be provided for their impact on future claims. Attention needs to be paid to differing loss experiences across different variants of the same product. For example, though the health insurance coverage could be the same across different product variants, high end products would have higher severity than low end products. Buyers who buy high end health insurance products could also be expecting the insurers to pay all health care expenses without demur. These expectations would have a bearing on the ultimate loss.

Loss volatility

Another important factor to be considered is the volatility of losses. A look at Table 2 will provide an insight on the function of volatility.

Consider two Products, Product A and Product B, both with exposure units of 1000 each. They both have the same frequency of 1% and severity of 64800. Since both the products have the same frequency and same severity, logically both should have the same Burning Cost. But the Burning Cost for Product B could be more because of the volatility factor. Volatility in loss distribution is measured as the Standard Deviation of the data set.

Standard Deviation is a measure of how much the values of a given data set differ from the average. The lower the Standard Deviation, the lesser is the difference from the average. The higher the Standard Deviation, the higher is the difference from the average.

For example, consider the following two data sets:

| | DATA SET 1 | DATA SET 2 |
|--------------------|------------|------------|
| A | 23 | 24 |
| B | 24 | 27 |
| C | 25 | 19 |
| D | 25 | 21 |
| E | 23 | 29 |
| AVERAGE | 24 | 24 |
| STANDARD DEVIATION | 0.89 | 3.69 |

Table 1

In Table 1, both data sets 1 and 2 have the same Average. But Data Set 1 has values closer to the average, while in Data Set 2, the values are spread further apart from the average. The higher the Standard Deviation, the higher is the likely difference of the values from the average.

Standard Deviation and Loss Volatility

While studying loss experience, an Insurer or Actuary would like to know not only what the average loss per a given number of exposures is. She would also like to know the degree of variability of the loss experience. This is called Loss Volatility.

In Table 2, it would be observed that though both the products have the same severity of 64800, the Standard Deviation for Product A is 4077, whereas the Standard Deviation for Product B is 14650. This could mean that the actual losses for Product B could significantly vary from the expected results, and therefore this volatility factor could require additional premium for Product B, though both

A and B have the same severity and frequency. The higher the Standard Deviation, the higher would the loss volatility be. Hence, in an exposure with a higher loss volatility, some margins would have to be built in, to account for higher unexpected losses.

| PRODUCT A | | PRODUCT B | |
|----------------|--------|----------------|--------|
| LOSS 1 | 67000 | LOSS 101 | 89000 |
| LOSS 2 | 61000 | LOSS 102 | 49000 |
| LOSS 3 | 69000 | LOSS 103 | 66000 |
| LOSS 4 | 69000 | LOSS 104 | 53000 |
| LOSS 5 | 64000 | LOSS 105 | 81000 |
| LOSS 6 | 65000 | LOSS 106 | 47000 |
| LOSS 7 | 62000 | LOSS 107 | 72000 |
| LOSS 8 | 61000 | LOSS 108 | 54000 |
| LOSS 9 | 71000 | LOSS 109 | 78000 |
| LOSS 10 | 59000 | LOSS 110 | 59000 |
| | 648000 | | 648000 |
| SEVERITY | 64800 | SEVERITY | 64800 |
| STD. DEVIATION | 4077 | STD. DEVIATION | 14650 |

Table 2

Test Yourself 2

The total amount of claims cost for a company with five groups of employees of the same age group, with 1,000 employees per group, is ₹30, 00,000. What is the Burning Cost per employee?

- A ₹3000
- B ₹6,00,000
- C ₹300
- D ₹600

3. Understand how Pricing is computed from Burning Cost

Learning Outcome (c)

PRICING

Burning Cost is called Pure Premium. As already noted, the Burning Cost would enable the Insurer to meet the ultimate amount of losses paid from the amount of premium collected. But the Insurer also needs to add for cost components other than claim payments. We have already seen that the other costs, apart from claim costs, are:

- Acquisition Costs
- Operating Expenses
- Profit

From Burning Cost to Premium

Consider an insurance product whose Burning Cost is derived to be ₹1000 per exposure unit. The acquisition cost payable would be 15% on the Premium. Operating Expenses would amount to 20% of the Premium, and the margin on profit should be at 10% of the Premium. What should then be the Premium?

| | |
|--------------------|------|
| Acquisition Cost | =15% |
| Operating Expenses | =20% |
| Profit Margin | =10% |
| Total Loading | =45% |

Now, loading the Burning Cost of ₹1000 by 45%, we get a Premium of ₹1450. Should this be the Premium? No.

Why not? Because, if the insurer spends 45% of the Premium on these three loadings, the residual amount would not be adequate to cover their Burning Cost.

| | |
|-------------------------------|------------|
| Premium | =1450 |
| Acquisition Cost | =15% = 218 |
| Operating Expenses | =20% = 299 |
| Profit Margin | =10% = 145 |
| Total Outgo | =45% = 662 |
| Balance left for Burning Cost | = 788 |

Thus, against the required Burning Cost of ₹1000, what is now left is only ₹788. Therefore, loading the Burning Cost by other elements of outgo is not the right way to determine the Premium. The right formula for determining the Premium from Burning Cost is:

$$\text{Premium} = \frac{\text{BURNING COST}}{(1 - \% \text{ of Cost Elements})}$$

$$\text{Premium} = \frac{1000}{(1-(45\%))}$$

$$\text{Premium} = \frac{1000}{55\%}$$

$$\text{Premium} = 1818$$

With this premium of ₹1818, the amount left for Burning Cost after meeting all elements of cost would be ₹1000.

| | | |
|-------------------------------|------|-------|
| Premium | | =1818 |
| Acquisition Cost | =15% | = 273 |
| Operating Expenses | =20% | = 363 |
| Profit Margin | =10% | = 182 |
| Total Outgo | =45% | = 818 |
| Balance left for Burning Cost | | =1000 |

The Pricing Exercise

Determining the Premium chargeable is not just a mathematical function, but a complex exercise. The Premium should be competitive. If the Premium is priced significantly higher than those charged by other competitors, the insurer could face challenges in achieving scale in numbers covered.

As we know, even with the right price, a low base could upset predictions of future losses, which best work under adequately large numbers. At the same time, if large numbers are obtained by sacrificing price realisation, the pool of money collected might not be adequate to cover expected claims and other costs.

A careful balance should therefore be struck between scale and revenue. This balance itself would be very dynamic as market forces are very dynamic. Therefore the insurer should carefully and continuously assess the market trends, claims trends and take a measured approach to pricing.

Test Yourself 3

On a Burning Cost of ₹3000, if loading has to be made for 10% Acquisition Cost, 20% Operating Expenses and 10% Profit Margin, what should be the Price?

- A. ₹5000
- B. ₹4200
- C. ₹1800
- D. ₹3000

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is C.

Reinsurer is not an Insurance distributor

Answer to Test Yourself 2

Correct Answer is D.

Since all employees are of the same age group, there are totally 5000 employees. Therefore, there are 5000 exposure units. Total Amount of Loss is ₹30,00,000. $30,00,000 / 5,000 = 600$

Answer to Test Yourself 3

Correct Answer is A.

$$\text{Premium} = \frac{\text{BURNING COST}}{(1 - \% \text{ of Cost Elements})}$$

$$\text{Premium} = \frac{3000}{(1 - 40\%)}$$

$$\text{Premium} = \frac{3000}{60\%}$$

$$\text{Premium} = ₹5000$$

Summary:

Burning Cost, Acquisition Cost, Operating Expenses and Profit are the four elements that comprise the Price for an Insurance product.

Burning Cost is a multiple of Frequency and Severity.

Frequency is the rate of loss events. It is calculated by dividing the number of loss events for a given period by the number of exposure units.

Severity is the average amount per loss in a given period. It is calculated by dividing the total amount of loss by the number of losses.

Price is derived by loading the Burning Cost with loading for the other elements of Price.

Both Burning Cost and Pricing should not be considered as mathematical functions, but have to carefully take into account other internal and external factors.

Self-examination questions

Question 1

Which of the following is not an exposure unit?

- A. Person covered in Life Insurance
- B. Vehicle
- C. Consignment
- D. Group Policy

Question 2

From the following data, calculate the Frequency of road accidents:

| BRANCH | NUMBER OF THEFTS | NUMBER OF ACCIDENTS | NUMBER OF VEHICLES COVERED |
|--------|------------------|---------------------|----------------------------|
| A | 2 | 11 | 150 |
| B | 3 | 19 | 160 |
| C | 82 | 766 | 3600 |
| D | 13 | 704 | 6090 |

- A. 16%
- B. 15%
- C. 1.5%
- D. 0.16%

Question 3

Following is the loss register of ABC Company for the residences covered in the year 2021-22. What is the severity?

| DATE OF LOSS | AMOUNT |
|--------------|-----------|
| 02-04-2021 | 1,71,000 |
| 08-06-2021 | 12,00,000 |
| 05-08-2021 | 4,50,000 |
| 26-08-2021 | 67,000 |
| 22-11-2021 | 43,000 |
| 05-01-2022 | 70,00,000 |
| 11-01-2022 | 1,69,000 |

- A. 7
- B. 91,000
- C. 91,00,000
- D. 13,00,000

Question 4

A health insurance company wants to price its new product. With the following factors, what should be the price?

| ELEMENTS | AMOUNT |
|-----------------------------|--------|
| BURNING COST | 1,500 |
| PRE ACCEPTANCE MEDICAL COST | 300 |
| ACQUISITION COST | 7.00% |
| OPERATING EXPENSES | 15.00% |
| PROFIT | 3.00% |

- A. 2,400
- B. 2,000
- C. 3,333
- D. 2,250

Question 5

What will be the result if more business is secured by charging less than the applicable premium?

- A. Business will decrease
- B. Profit will increase
- C. Loss will increase
- D. Loss will decrease

Question 6

Which of the following may not be a relevant factor in pricing?

- A. Competition
- B. Change of CEO
- C. Recent Judgements having an impact on the coverage
- D. Rate Increase by Reinsurers

Answers to self-examination questions:

Answer to Question 1:

The correct option is D.

Group Policy is not an exposure unit. The number of exposure units covered in that Group is relevant.

Answer to Question 2:

The correct option is B

Total Number of Road Accidents=1500

Total Number of Exposure Units =10000

Frequency =15%

Answer to Question 3:

The correct option is D

Total number of losses =7

Total amount of loss =91,00,000

Severity = 13,00,000

Answer to Question 4:

The correct option is A

Add Premedical Inspection Cost to Burning Cost

$1600+200=1800$

25% Loading on 1800

$=1800 / (1-(25\%)) = 1800 / 75\% = 2400$

Answer to Question 5:

The correct option is C

Unviable Pricing will increase the loss

Answer to Question 6:

The correct option is B.

Change of CEO will not be directly relevant to determining the price.



CHAPTER 4

PRINCIPLES OF INSURANCE- ONE

Chapter Introduction

We saw what insurance is, how it works, and what its functions are. We will now study certain fundamental Principles on which insurance works. There are six of them, and these are:

1. Utmost Good Faith
2. Insurable Interest
3. Indemnity
4. Subrogation
5. Contribution
6. Proximate Cause

These Principles have evolved over centuries. These Principles are reiterated in various judgements of various courts across the world, and they govern the way insurance functions throughout the world.

Adherence to these Principles is a pre requisite to any insurance contract. For Marine business, these Principles are expressly stated in the Marine Insurance Act, 1963. For other lines of business, there is no specific insurance law. Yet, these Principles are backed by Common Law, and are applicable to other lines of business. In this Chapter and the next two, we will study what these Principles are and how they are relevant to Insurance Contracts.

■ Learning Outcomes

- a. Understand the Principle of Utmost Good Faith and understand how it is important to Insurance Contracts
- b. Understand what Insurable Interest is, how it exists, and when it should exist in Insurance Contracts



- 1. Understand the Principle of Utmost Good Faith and understand how it is important to Insurance Contracts**

Learning Outcome (a)

UTMOST GOOD FAITH

All contracts are contracts of good faith. The parties to the contract have a duty to answer all questions asked truthfully and to not actively conceal any fact. However, in ordinary contracts, the parties are not expected to disclose facts which are not asked. For instance, if A sells his land to B, A need not disclose to B that there is a proposal that the Government could be soon acquiring the land for expanding the road. If B asks whether there is any such proposal that he is aware of, then A should answer that question truthfully. In the absence of any such question, A is not under any duty to disclose any such proposal on his own.

Insurance contracts are, however, contracts of utmost good faith. The parties to the contract have a duty to disclose all material facts even without being asked. This is called the Duty of Disclosure. While in ordinary contracts there is no such duty to disclose facts which are not sought, in insurance contract, the insured should disclose all facts material to the risk being proposed, even if the insurer does not ask any questions on these facts. This is known as the doctrine of *uberrimae fidei*. *Uberrimae fidei* is a Latin phrase, meaning Utmost Good Faith.

Need for Utmost Good Faith

The need to observe Utmost Good Faith is powerfully expressed in the words of Lord Mansfield in the famous judgement in Carter vs. Boehm in 1766:

“Insurance is a contract upon speculation. The special facts, upon which the contingent change is to be computed, lie more commonly in the knowledge of insured only: the underwriter trusts to his representation and proceeds upon confidence that he does not keep back any circumstance in his knowledge, to mislead the underwriter into a belief that the circumstance does not exist and to induce him to estimate the risqué as if it did not exist. The keeping back of such a circumstance is a fraud and, therefore, the policy is void. Although the suppression should happen through mistake, without any fraudulent intention; yet still the underwriter is deceived and the policy is void; because the risqué run is really different from the risqué understood and intended to be run at the time of agreement.”

An insurer receives hundreds of proposals from the public to cover their risks. The insurer does not know any detail about any of these risks intended to be insured. It is also not feasible for the insurer to inspect each and every risk before accepting it for insurance. But, the customer who makes the proposal, is expected to have intimate knowledge on the features of the risk

proposed to be insured. The insurer, therefore, trusts the insured customer to disclose all facts material to the risk being proposed for insurance.

Since insurance is a risk transfer mechanism, whereby the risk of the individual is transferred to the pool, the proposer is expected to disclose all material facts pertaining to the risk, so that the insurer could take a reasoned decision on whether to accept a risk or not, and if to accept, at what terms and rates. If material facts are not properly disclosed, the mechanism of insurance could fail with undesired risks getting transferred to the pool. Such an outcome is against public interest and hence it is an accepted principle of insurance that the parties to the insurance contract observe utmost good faith.

DUTY OF DISCLOSURE

The Principle of Utmost Good Faith entails a Duty of Disclosure. The parties to the Insurance contract thus have a duty to disclose material facts. This Duty of Disclosure is expressed clearly by Lord Justice Scrutton in Rozanes vs. Bowen (1928) thus:

“As the underwriter knows nothing and the man who comes to him to ask him to insure knows everything, it is the duty of the assured... to make a full disclosure to the underwriter, without being asked, of all the material circumstances. This is expressed by saying it is a contract of utmost good faith.”

Section 20 of the Marine Insurance Act, 1963 expressly states the Duty of Disclosure thus:

“(1) Subject to the provisions of this section, the assured must disclose to the insurer, before the contract is concluded, every material circumstance which is known to the assured, and the assured is deemed to know every circumstance which, in the ordinary course of business, ought to be known by him. If the assured fails to make such disclosure, the insurer may avoid the contract.

(2) Every circumstance is material which would influence the judgment of a prudent insurer in fixing the premium, or determining whether he will take the risk.”

The duty to disclose is binding upon both the parties. But in the case of the Insurer, the facts that he is bound to disclose are:

- Information on any discount admissible for a good feature present in the risk.
- The Insurer is also expected not to make untrue statements during the contract negotiation.

In contrast, the duty of the disclosure is more onerous upon the insured. He is expected to disclose all material facts.

Material facts

What facts are material depend upon the circumstances of each case. A material fact could be defined as a fact which would enable the Insurer to decide whether to accept a risk or not, and if accepting a risk, on what rates and terms. Any question seeking an answer from the Proposer is considered as relating to a material fact.

Facts that need not be disclosed by the Insured

The Insured need not disclose the following facts:

a) **Facts of Law**

Facts of Law are in public domain and the Insured need not disclose them.

b) **Facts which an insurer is deemed to know**

An insurer is deemed to know matters of common knowledge and matters which an insurer, in the ordinary course of their business, ought to know. For example, an insurer is supposed to know what type of constructions are unsafe, what kind of goods are hazardous, what kind of weather prevails in the normal course in any part of the world and so on.

c) **Facts which lessen the risk**

A fact which lessens the risk, if disclosed, could entail lower rates of premium. But if such facts are not disclosed, they do not adversely affect the Insurer's decision on underwriting the risk, and hence these need not be disclosed.

d) **Facts which the Insurer's survey could have noted**

Once the Insurer arranges for a preinspection survey of the risk, they are expected to ascertain all information relating to the risk, and in such cases, the Insured need not disclose all such information which the survey could have noted

e) **Any circumstance as to which information is waived by the insurer.**

This is particularly important in Proposal Forms where the Insured omits to answer a question relating to a material fact. When the Insured does not reply to a question in the Proposal Form, or leaves

it blank, it is for the Insurer to seek that information before accepting the risk. Where the Insurer has failed to follow up and seek answers to unanswered questions, the Insurer could be held to have waived the information. If the Insurer ignores this omission of the Insured to reply to a question, later the Insurer cannot resort to nondisclosure.

Evolution of the Doctrine of Utmost Good Faith

While studying the Principle of Utmost Good Faith, we saw that the Insured customer is saddled with some important responsibilities:

- He should disclose all material facts even if he is not asked
- He ought to know all material facts relating to the risk
- Even if there is an innocent mistake in making a statement, still the insurance contract becomes void (A void contract is no contract at all. It loses its power of enforcement)

These onerous responsibilities sometimes become convenient grounds for the Insurer to deny liability. Hence, over the centuries, this duty of Utmost Good Faith has evolved to a less customer hostile principle.

To begin with, if a question is not asked by an Insurer, not disclosing a fact might not be considered as a breach of the duty of utmost good faith.

Even if a question is asked, and the Proposer has left the answer blank, this by itself could not mean suppression or nondisclosure. Glossing over unanswered questions could be considered waiver of the Insurer's right to be provided all material facts.

It is also in the insurer's interest to frame questions in such a way that all material particulars are sought and obtained. A failure to seek a fact or circumstance relating to a risk could provide an inference against the insurer that information not sought in the proposal is not material to the risk being proposed.

In fact, the Duty of Disclosure, is also being made less burdensome. In United Kingdom, the Duty of Disclosure, mandated under Section 18 of the Marine Insurance Act (corresponding to Section 20 of the Indian Marine Insurance Act, 1963) is removed.

In India too, Courts are reluctant to saddle the consumer with the duty of disclosure where the Insurers have chosen not to ask a question, or to ignore blank answers.

Most importantly, the applicability of the Duty of Utmost Good Faith itself has been restricted.

Life Insurance

In Life Insurance, this Duty is not applicable after three years of commencement of the Policy. Section 45 of the Insurance Act has been amended in 2015 and as the law stands now, no Policy of Life Insurance could be called in question after a period of three years from its commencement. Even within three years, limited grounds are available to question the Policy. These are:

- (a) A Policy of Life Insurance could be questioned within three years on the grounds of Fraud. But no Life Insurer can deny a Life Insurance Policy if the Insured could prove
 - i. that the suppression or misstatement was True to the best of the Insured's knowledge and belief, or
 - ii. that there was no deliberate intention to suppress the fact
- (b) A Policy of Life Insurance could be questioned within three years on the grounds of misstatement or suppression of any material fact. Further, the Insurer has the burden to prove that had they been aware of the said fact, which is alleged to have been suppressed or misrepresented, they would not have issued the Insurance Policy to the Insured.

Health Insurance

No health insurance policy can be questioned after eight years of continuous coverage. Even if there has been a nondisclosure or misrepresentation, the Policy cannot be contested on these grounds, if the Policy has continuous coverage of eight years. This is called Moratorium.

Consequences of Nondisclosure or Misrepresentation

As observed, in Life Insurance, there is no consequence for a nondisclosure or misrepresentation after three years of coverage. Similarly, for health insurance, there is no consequence after eight years of continuous coverage.

In other Policies, the Policy can become void or voidable, depending upon the terms of the contract of insurance. Before we see when an insurance contract could become void, and when voidable, let us understand the difference between a void and a voidable contract.

Voidable Contracts

In normal contracts, as per Section 19 of the Contract Act, "When consent to an agreement is caused by Coercion, fraud , or misrepresentation, the agreement is a contract voidable at the option of the party whose consent was so caused."

Here voidable means, the party to whom the misrepresentation was made has the option to avoid the contract. Avoiding the contract means, the party who is

affected by the misrepresentation can choose to declare that the contract is invalid. If he so chooses, the contract is invalid. But if he chooses to ignore that misrepresentation, then the contract is still valid. Thus, the option to decide whether a contract is valid or invalid rests with the person to whom the misrepresentation was made.

For example, A sells his land to B with a misrepresentation that the title is free from any encumbrance, it later turns out that there is a mortgage on that land. Thus, a misrepresentation has been made by A to B. Now B has the option to decide to accept the land with the encumbrance, or to declare that the contract is invalid because of the misrepresentation. A, the seller, has no such choice. If B, the buyer, still wants to buy the land, A has no option, but to sell it to B.

Void Contracts

A void contract means it is not legally enforceable. Neither party to the contract can choose to enforce it. It is no contract at all.

When Void and When Voidable

In Insurance, whether a contract becomes void or voidable, depends on the terms of the Contract, i.e., the terms of the Policy.

- Some Policies state that in the event of misrepresentation or nondisclosure, the Policy is voidable at the option of the Insurer.
- Some contracts state that in the event of misrepresentation or nondisclosure the Policy becomes void. That means the insurance cover cannot be enforced.

Hence one must look to the terms of the Policy to decide whether a nondisclosure or misrepresentation would render the Policy void or voidable.

Mere nondisclosure or misrepresentation might not render the Policy void or voidable. The misrepresentation or nondisclosure should relate to a material fact, and in some cases, the Insurer has to prove that had the material fact been properly disclosed, no policy would have been issued.

Irrespective of whether the consequence of nondisclosure or misrepresentation makes it void or voidable, the fact remains that the Insurer in such cases of nondisclosure or misrepresentation could avoid liability. This could land the Insured customer in trouble, especially at the time of a loss. It is therefore in the interest of the customer to answer all questions truthfully. The Insured should not try to decide which question is material and which question is not material. Every question the Insurer asks in the Proposal Form or in any other communication could be deemed to be material, and the Insured customer should answer all of them truthfully.

When does the Duty of Disclosure exist?

In all insurance contracts, the duty of disclosure exists till the contract is finalised and bound. Once the contract is concluded, any further change in the risk is not required to be disclosed under law. For example, while taking a health insurance policy, the customer should give full details of his existing illnesses; but once the Policy is taken, he is not under a duty to disclose any fresh illness he might have contracted after the commencement of the cover.

But this position is altered by a specific condition in some Policies, whereby the Insurer mandates the Insured to disclose any material change in the risk. For example, in a Fire Policy, the Condition states:

“Under any of the following circumstances the insurance ceases to attach as regards the property affected unless the Insured, before the occurrence of any loss or damage, obtains the sanction of the Company signified by endorsement upon the policy by or on behalf of the Company :-

a) If the trade or manufacture carried on be altered, or if the nature of the occupation of or other circumstances affecting the building insured or containing the insured property be changed in such a way as to increase the risk of loss or damage by Insured Perils.”

What this Condition means is that if there is a change in the risk, the insurance will stop. The insured obtains the approval of the Insurance company for the change in the risk. For example, a building is insured as a residence, and during the currency of the Policy, it becomes a restaurant. Then the insurance will stop. The Insured should inform the Insurance Company and obtain its permission for the change in the risk, so that the insurance can continue.

Unless such a condition is present, the duty of disclosure stops once the Policy is concluded. But every time a new Policy with new cover or increased cover is sought, the Duty of Disclosure begins again.

Test Yourself 1

Which of the following is not a material fact?

- A. The colour of the car for motor third party insurance.
 - B. The age of the Insured for Health Insurance.
 - C. The nature of goods stored for Fire Insurance,
 - D. The mode of packing for Marine Transit Insurance.
-

2. Understand what is Insurable Interest, how it exists, and when it should exist in Insurance Contracts

Learning Outcome (b)

INSURABLE INTEREST

"What is it that is insured in a fire policy. Not the bricks and the materials used in building the house, but the interest of the assured in the subject-matter of insurance."

Castellain vs. Preston

"To be interested in the preservation of a thing, is to be so circumstanced with respect to it as to have benefit from its existence, prejudice from its destruction."

Justice Lawrence in Lucena vs. Craufurd

Insurance is a contract that compensates the financial loss suffered by the Insured caused by an insured peril. How could one incur a financial loss? Only if he is related to that property in some way, such that he benefits from its continued existence, and loses by its destruction.

This kind of relationship is relevant not only to property, but to life, too. If M's neighbour dies, neither M nor his family will be affected. But if M dies, M's family could lose their breadwinner and could land in poverty.

This relationship between the insured person and the life, or between the insured person and the insured property is called Insurable Interest. Insurable Interest is thus an interest, recognised by law, whereby one person is benefited by the continued existence, and prejudiced by the loss, of a life or property.

Why Insurable Interest?

Just imagine the situation that would prevail if Insurable Interest is not an essential Principle of Insurance. Anybody could insure any property, and could get insurance compensation even if he did not lose anything financially. For example, A insures B's car against theft risks. In case B's car is stolen, A gets the money as the insured property is lost by an insured peril. Remember, A did not own the car; and hence A had no financial loss due to the theft, because the car anyway is not his. But he still gets compensation. If such a situation were allowed to prevail, people could make money out of chance happenings of loss to somebody else's property. In due course, these people could even be tempted to create losses to others' property, so that they could gain by their losses. Such a situation, apart from being morally abhorrent, would lead to wide spread losses, arson, looting and in due course, to total breakdown of law and order.

It is to avoid such an undesirable environment that Insurable Interest is required as a condition to pay losses.

How does Insurable Interest Arise?

Ownership

Quite obviously, Insurable Interest arises out of ownership. If R owns a property, and if that property is lost, R does incur a financial loss- the loss of the owned property. Ownership definitely fits the definition of a relationship between the person and the property, whereby that person benefits by the continued existence of the property and loses by its destruction.

Apart from ownership, there are other situations which create Insurable Interest.

Relationship

In Life Insurance Policies, Insurable Interest exists in the following circumstances:

- A person has an Insurable Interest in his life. Obviously, every person has a stake to live his life through, and is assumed to have Insurable Interest in his life.
- A husband has Insurable Interest in his wife's life to the extent he is dependent on her income; and a wife, similarly, has Insurable Interest in the life of her husband to the extent of her financial dependency on him.
- Minor children have Insurable Interest in the life of their father or mother to the extent of their financial dependency on them.
- A father or mother could also have Insurable Interest in the life of their son or daughter to the extent of their financial dependency on them.

Contractual Relationship

Insurable Interest could also exist by virtue of a contract.

Bailment

A bailee has interest in the property of the bailor. Bailment is the delivery of goods by one person to another person for a purpose, with the assurance that the goods will be returned after the purpose is achieved. The person who delivers the goods is called the bailor, and the person who receives the goods is called the bailee. Such contracts of bailment occur on various occasions:

- When P hands over his suit material to T- the tailor, P is the bailor and T is the bailee. Though the suit material is owned by P, T has an Insurable Interest in the property, because he is responsible for its safety while it is in his custody.

- When S hands over his car to R- the Repairer, S is the bailor and R is the bailee. Though the car is owned by S, R has an Insurable Interest in the property, because he is responsible for its safety while it is in his custody.
- A cold storage owner could similarly be considered the bailee for all the goods stored in his cold storage unit and has an Insurable Interest in these goods
- A bank is the bailee for all jewellery pledged to it and has Insurable Interest in such pledged jewellery

The Insurable Interest for such bailees is only to the extent of the financial responsibility of the bailees to make good the loss to the bailors.

Credit

A Creditor has Insurable Interest in the life of a Debtor because, on most occasions, the repayment of the loan is premised on the productive life of the Debtor. If the Debtor dies early, the repayment of the loan is compromised. In such cases, a Life Insurance or Personal Accident insurance on the life of the Debtor will provide the Creditor the amount to square off the loan of the Debtor. Banks and other lending institutions therefore generally take Life Insurance Policies on the Life of the Debtor which would pay them the amount of loan outstanding.

A Creditor also has Insurable Interest on the Property for which the loan has been paid. In case the Property bought with the loan is destroyed, challenges could arise in getting the loan repaid. For example, a Bank lends a loan to a tourist taxi operator to purchase a car. If the car is destroyed due to an accident, the tourist taxi operator loses his means of livelihood. Hence, the repayment of the loan could halt, or stop completely. The Bank as the Creditor has Insurable Interest in the vehicle financed by them. In case of a loss to the vehicle, the Insurers pay the Bank which enables them to settle their outstanding loan, and pay the balance, if any to the tourist taxi operator.

Tenancy

Sometimes, a Tenancy Agreement could have a clause that in case of any loss to the Property, the Lessee bear the responsibility. In such cases, the Lessee, though not the owner of the building, has an Insurable Interest during such period of tenancy. Of course, in the event of an Insured loss, the Insurer pays the Lessee only after satisfying itself that the Lessee is compensating the Building Owner for the loss.

Employment

Employers have two kinds of Insurable Interest on their Employees. First is, in case of death of an employee arising out of and during the course of employment,

the Employer has the legal liability to compensate the loss. Second, an Employer could have invested a considerable sum in recruiting and training an employee, and in case of his death, such investment is lost. Hence, the Employer could take an insurance on the life of an employee. In such cases, the Insurer need not even ascertain whether the Employer did have a liability for the death of the employee, or whether they have paid any money to the legal heirs of the employee who died. That an employee died is enough reason for a loss to an Employer which could be directly compensated by the Insurer.

Partnership

A Partnership Firm could get dissolved on the death of a Partner. Business continuity is therefore affected. Therefore, a Partner could have Insurable Interest on the life of the other Partner.

Principal- Contractor

In a Project, the Principal engages a Contractor to execute the Project. The Contractor is responsible for its execution and thus has an Insurable Interest on the property which is part of the Project, though the property is owned by the Principal.

Insurer

Insurers are deemed to have Insurable Interest in all lives and properties insured by them. This gives them the legal right to reinsure these lives and properties.

When Should Insurable Interest Arise?

We saw that Insurable Interest is an essential requirement for an Insurance Contract. The question that arises is, should Insurable Interest exist:

- At the time of entering into the Insurance Contract, or
- At the time of making a claim under the Insurance Contract, or
- Throughout the validity of the Insurance Contract.

The answer to this question depends on the line of business.

In Life Insurance, it is necessary that Insurable Interest should exist at the time of Proposal. It is not necessary that this Insurable Interest should be present at the time of loss.

In non life insurance, other than Marine Insurance, Insurable Interest should exist at the time of Proposal, and also at the time of loss.

In Marine Insurance, Insurable Interest need not exist at the time of Proposal, but it should exist at the time of loss.

Test Yourself 2

Which of the following does not have an Insurable Interest?

- A. Ownership.
- B. Bailee's responsibility for goods entrusted to him.
- C. Proposer's interest in the life of his friend.
- D. Contractor on the building being constructed by him.

Answers to test yourself

Answer to Test Yourself 1

Motor Third Party Insurance is compulsory, and no insurer can refuse third party insurance to a vehicle. Hence colour of the car is not a material fact to the Insurer, as he cannot refuse Third Party insurance to any customer based on the colour of the car, nor in India is colour a rating factor.

Answer to Test Yourself 2

While all the other three circumstances entail an Insurable Interest, no person is deemed to have an Insurable Interest in the life of a friend.



Summary:

- Utmost Good Faith means the duty to disclose all material facts relating to the risk being proposed for Insurance
 - The Proposer knows many things about the risk, while the Insurer knows nothing. Utmost Good Faith is necessary to reduce this information asymmetry that exists between the Proposer and the Insurer on the risk to be insured.
 - Failure to disclose a material fact could make the contract void or voidable.
 - Insurable Interest is necessary to prevent undue gains to individuals who did not lose anything due to the occurrence of an Insured loss.
 - Insurable Interest could exist because of ownership, relationship or contract
 - The line of business determines when Insurable Interest should exist.
-

Self-examination questions

Question 1

Which line of business has a law expressly declaring the Principles of Insurance?

- A. Fire Insurance
- B. Motor Insurance
- C. Life Insurance
- D. Marine Insurance

Question 2

Uberrimae fidei means:

- A. Duty of Disclosure
- B. Contract of Bailment
- C. Utmost Good Faith
- D. Fiduciary Relationship

Question 3

A material fact means:

- A. Information about the material used in the risk
- B. Facts which are in public domain
- C. Facts which enable an Insurer to decide whether to accept a risk or not
- D. Facts which enable an Insurer to understand what competition is doing

Question 4

Under Section 45 of the Insurance Act, what is the maximum time limit upto which a Policy of Life Insurance could be called in question?

- A. Eight Years
- B. Three Years
- C. Two Years
- D. Four Years

Question 5

In which of the following lines of business, Insurable Interest need not exist at the time of loss?

- A. Life Insurance
- B. Marine Insurance
- C. Motor Insurance
- D. Property Insurance

Question 6

An Insurer has Insurable Interest in the property insured by them because:

- A. They own the property
- B. They are the Contractors and the Reinsurer is the Principal
- C. They stand to benefit by the property's existence and lose by its loss
- D. They are bailees to the Insured Property

Answers to self-examination questions:

Answer to Question 1:

The correct option is D.

The Marine Insurance Act, 1963 expressly defines the Principles of Insurance.

Answer to Question 2:

The correct option is C.

Uberrimae Fidei is a Latin phrase which means Utmost Good Faith.

Answer to Question 3:

The correct option is C.

Material facts are those that enable an Insurer to decide whether to accept a risk or not, and if accepting, on what rates and terms.

Answer to Question 4:

The correct option is B.

As per Section 45 of the Insurance Act, 1938, no Policy of Life Insurance could be called in question after a period of three years from the commencement of the risk.

Answer to Question 5:

The correct option is A.

In Life Insurance, Insurable Interest should exist at the time of Proposal, but not at the time of loss.

Answer to Question 6:

The correct option is C.

An Insurer stands to benefit by the continued existence of the property, as they have to pay for the loss of property if it is lost by an Insured Peril.



CHAPTER 5

PRINCIPLES OF INSURANCE- TWO

Chapter Introduction

In the previous Chapter we studied the Principle of Utmost Good Faith and Insurable Interest. In this Chapter, we will study what Indemnity is, why Indemnity is required, how Indemnity works in insurance contracts, and the Insurance Contracts which are not contracts of Indemnity.

■ Learning Outcomes

- a. Learn What Indemnity Is and understand the need for Indemnity, how Indemnity works in different lines of business
- b. Learn the different modes of Indemnity, the Limits of Indemnity and also study Insurance Contracts which are not Contracts of Indemnity



1. Learn What Indemnity Is and understand the need for Indemnity, how Indemnity works in different lines of business

Learning Outcome (a)

What is Indemnity?

Indemnity is the most important Principle of Insurance. Simply stated, Indemnity means placing the Insured in the same financial position as he was prior to the occurrence of the Insured loss. In simple terms, indemnity means compensating a person for the financial loss he suffered due to an Insured Peril.

Indemnity is the bedrock of insurance.

Lord Justice Brett, in the famous case, Castellain vs. Preston, stated these timeless words, which are as relevant today, as they were when uttered in 1883:

“The very foundation, in my opinion, of every rule which has been applied to insurance law is this, namely that the contract of insurance contained in a marine or fire policy is a contract of indemnity and of indemnity only, and this contract means that the assured, in case of a loss against which the policy has been made, shall be fully indemnified but shall never be more than fully indemnified.”

Why Indemnity?

We saw Justice Brett saying the Insured should be fully indemnified, but never more than fully indemnified. Why should a person not be more than fully indemnified? The consequences could be disastrous to society.

We saw in the previous chapter the consequences of compensating a person who does not have Insurable Interest. If he does not have Insurable Interest, he does not lose anything. If a person gets more compensation than his financial loss, similar consequences would follow:

- People could get more compensation than their actual financial loss.
- In due course, these people could even be tempted to create losses, so that they could gain.
- Such a situation, apart from being morally abhorrent, would lead to widespread losses, and to the breakdown of the insurance mechanism.

Indemnity in Insurance Contracts

We will see how Indemnity works in Insurance contracts.

But before we discuss how this Principle of Indemnity applies to various types of insurance contracts, it is necessary to bear in mind that not all insurance contracts are contracts of indemnity. There is a significant

number of insurance contracts that are not indemnity based, but benefit based. We will later see which are the insurance contracts that do not work on the Principle of indemnity.

Indemnity is placing the insured in the same financial position as he was prior to the occurrence of the loss. In practice, there are challenges galore in providing Indemnity. We will now see how this concept of Indemnity is practised in insurance claim settlements.

To begin with, let us consider the term “financial position”. By financial position do we mean cost or do we mean value? Now, what is the difference between cost and value? Let us examine two Scenarios:

Scenario A: Vishal and Flood Loss

Vishal buys hundred cement bags of cement on first July 2022 at ₹360 per bag. On 1st October 2022, all the hundred cement bags are lost in flood. The price of cement on 1st October 2022 was ₹400 per bag.

Now what is the Vishal's financial position just before the loss?

Did he lose 100 bags of cement worth ₹36,000, because that is the cost Vishal incurred to buy these 100 bags?

Or did he lose 100 bags of cement worth ₹40,000, because that is the value of cement on the date of loss?

₹360 per bag is the cost.

₹ 400 per bag is the value.

It is not the cost that is used as a measure of Indemnity. It is the value of the goods or property lost as on the date and place of loss which is reckoned for Indemnity. Value usually means market value.

We will see what amount represents correct compensation to Vishal by considering two scenarios, Scenario A1 and Scenario A2.

A1. What if the insurance company pays ₹36,000, which represents the cost?

Vishal had 100 bags of cement before the loss. Can Vishal buy 100 bags of cement with the money the insurance company paid him?

No, he can buy only 90 bags of cement, because the price of a bag of cement at the time of loss is ₹400.

Before the occurrence of the loss, Vishal had 100 bags of cement. After the occurrence of the loss, Vishal has only 90 bags. Therefore, he is in a lower

financial position than he was before the occurrence of the loss. This is not Indemnity.

A2: If the insurance company pays Vishal ₹40,000, which represents the market value?

Vishal could buy 100 bags of cement at ₹400 per bag. Vishal had 100 bags of cement before the loss. Vishal has 100 bags of cement after the loss. Thus, he is in the same financial position as he was before the loss. This is Indemnity.

True Indemnity places the Insured in the same financial position as he was prior to the loss.

Let us now examine another scenario.

Scenario B: Rekha and Burglary Loss

Rekha buys hundred grams of gold on 1 July 2022 at ₹5200 per gram. The price of gold fell, and on 1st October it was ₹5000 per gram.

On 1st October 2022, a burglar entered her house and stole all the hundred grams.

How much should the insurance company pay Rekha? ₹5,20,000 or ₹5,00,000?

B1: If you think Rekha should get ₹5,20,000, because she had spent ₹5,20,000 to buy the gold, you are wrong.

If the burglar had not stolen the gold, Rekha would have had hundred grams of gold. With ₹5,20,000 paid by the insurance company, Rekha can buy hundred and four grams of gold at ₹5000 per gram.

Before the burglary loss, Rekha had hundred grams of gold. After the loss, she has hundred and four grams of gold. Is she in the same financial position as she was prior to the loss? No. Now she is better off. She has hundred and four grams gold. She is in a better position. This is not Indemnity.

B2: Therefore, Rekha should be paid only ₹5, 00,000, Which represents true Indemnity.

With ₹5,00,000, she can buy hundred grams of gold. Before loss, she had hundred grams of gold. After loss, she has hundred grams of gold. This is true Indemnity.

With these two scenarios, we could understand that Indemnity is determined not by the cost at the time of purchase, or cost at the time of commencement of insurance, but by value at the time of loss. Indemnity is thus based on the market value at the time of loss.

This value could be determined by considering the market price for easily tradeable goods like cement and gold. Valuation could get tougher for certain items like stock in process, or used machinery. We will later see how the value for arriving at the amount of indemnity is determined.

Place:

Just as Indemnity is based on the value of the goods lost as on the date of loss, Indemnity is also based on the value of the goods lost, as at the place of loss.

A product could cost ₹1,00,000 per ton at place A. The same product could cost ₹1,20,000 at place B.

The cost of packing, loading, freight, unloading, cartage and such other imposts add up to the landed cost. Therefore, Indemnity must be reckoned at the place of loss.

We will also examine how the principle of Indemnity is practised in a few other situations.

Stock - Raw Material

Raw material is easily tradeable. The market price of the raw material has to be reckoned as on the date of loss, and as at the time of loss.

Stock in Process

The value of stock in process is determined in relation to the stage at which the loss occurred. The entire course of raw material getting converted into finished goods is called a process. This Process could have several stages, depending upon the nature of goods being manufactured. During each stage, value addition takes place. Additional raw materials could be mixed; it could be heated, treated, blended; additional cost such as fuel, wages and electricity are incurred at each stage of production. In addition to these direct costs, other indirect costs which are connected to the production stage such as depreciation and maintenance of machinery should also be calculated.

Finished Goods

Value of Finished Goods could be determined by adding all costs from raw material till the complete production cycle. Another way of determining the value of Finished Goods is by deducting the post production costs and profits from the selling price of the Goods.

Machinery

Indemnity for machine totally lost due to an Insured Peril is by determining its value.

Value of raw material could be easily ascertained because they are easily tradeable. But machinery is not a regularly traded asset. Each machinery of each factory could have its own value. This depends on various factors like the age of the machinery, make, working environment, number of shifts, periodic maintenance, availability of spares and such other factors. Usually, value of a machine is ascertained by finding the price of a new machine of a similar capacity and similar make; and applying depreciation on the price of the new machine. Depreciation depends upon the age and use of the machine.

For machines which are partially damaged, the repair costs are paid in full. If some parts of the machine are damaged, depreciation is applied on the cost of such parts replaced.

Building

For Building, the cost of constructing a new Building of the same area and specifications as the Insured Building is ascertained. On this cost, appropriate depreciation is deducted.

Motor Losses

For automobiles, if the vehicle is totally lost, the market value of the vehicle as on the date of loss is paid. For repairs, depreciation will be applied on cost of new spare parts replaced, but repair costs are paid in full.

Health Claims

Health claims are paid directly to the Hospitals if it is under a cashless arrangement. If the customer has not opted for cashless arrangement, the medical cost incurred at the Hospital is reimbursed to the customer.

Liability Claims

Liability claims arise when a Court rules that the customer is liable for her action, and that she has to pay compensation to the other party who was killed, injured or whose property was damaged. The compensation awarded by the Court is paid by the customer, and reimbursed by the Insurer.

Other Claims

It should be remembered that all Insurance Contracts are not contracts of Indemnity. We will discuss later which of the Insurance Contracts are not contracts of Indemnity. But even in Indemnity based Insurance Contracts, the method of Indemnity could vary. For example, we saw that depreciation is imposed on the cost of new machinery and on new building, to arrive at the value of the old machine or old building which was damaged or destroyed due to an Insured Peril. But in certain Policies with special clauses, no depreciation is

imposed. Similarly, in automobiles with Zero Depreciation Clause, no depreciation is imposed on the cost of new spare parts replaced.

Other types of Insurance Contracts also stipulate how Indemnity is measured. Though the intent is to make good the loss, the method of determining Indemnity is laid down in the terms of the respective Insurance Policy.

Test Yourself 1

D's house was totally damaged in an earthquake. The life of the house is 50 years. The house is twenty years old at the time of loss. The cost of constructing a similar house is ₹50,00,000. What amount should D be paid?

- A. ₹50,00,000
 - B. ₹30,00,000
 - C. ₹20,00,000
 - D. ₹25,00,000
-

2. Learn the different modes of Indemnity, the Limits of Indemnity and also study Insurance Contracts which are not Contracts of Indemnity

Learning Outcome (b)

MODES OF INDEMNITY

Indemnity is usually made by paying money to the customer for the assessed value. In some cases like automobile repairs, the repair cost is paid by the Insurer to the repairer. Similarly, in cashless Hospitalisations, the cost of treatment is paid by the Insurer to the Hospital. In other cases, the customer spends her money first, and claims reimbursement from the Insurer.

In some cases, the Insurer arranges for replacement of the damaged item. Like, in damage to the windscreen glass in a vehicle, the Insurer arranges for the manufacturer to replace the damaged glass.

In some cases, the Insurer might reinstate the machine lost by paying for a new machine of the same capacity. If the Policy is issued with Reinstatement Clause, no depreciation would be applied on the cost of the new machine.

Limits to Indemnity

Indemnity, as we saw, places the Insured in the same financial position, as he was prior to the occurrence of a loss covered by an Insured Peril. But the amount paid for the claim could be less than the amount of Indemnity. Why?

It could be because of a few reasons. What these are would be discussed now:

1. Deductibles

Many Policies have a condition that requires the customer to bear a certain amount of the loss or a certain percentage of the loss. This amount or percentage is deducted from the claim amount payable. This is called Deductible or Excess.

Policies have a Deductible Clause for the following reasons:

a. To avoid claims for low values

When a claim is lodged with the Insurer, the Insurer incurs certain cost in determining admissibility under the Policy, assessing the loss, and paying the amount to the Insurer. These costs could be considerable. If claims for very low values are made, for each such claim, the Insurer should first examine whether the claim is payable under the Policy. Next, they have to decide on the amount payable. Both these exercises involve considerable time and usage of human resource. In small claims, thus the amount spent on examining admissibility and assessing the amount of claim payable could be more than the value of the claim itself. Therefore, to dissuade the customer from making claims for low values, a Deductible is imposed in the Policy.

b. Encourage Customers in minimising losses

Another reason for the Deductibles is to ensure that the customer also takes necessary care to reduce losses. In situations like fire or flood, the speed with which the customer responds to the occasion could decide how big the loss is. If the customer immediately takes steps to minimise the loss, then the amount of loss would also be significantly reduced. If the customer has to bear a portion of the loss, he also would be more responsive to the task of loss reduction. Hence Deductibles are imposed.

Similarly, in Health Claims, the Deductible is called Co Pay. A customer who is hospitalised will not be paid the entire Hospitalisation expenses. He could be asked to bear, say 20% of the claim amount. This is called Co Pay. This Deductible called Co Pay is imposed in the Policy to encourage the customer to minimise the cost by choosing the right Hospital that provides the right treatment at reasonable rates.

2. Underinsurance

Underinsurance is an important concept designed to ensure that the Insured customer pays the premium for the complete exposure. Underinsurance is also known as the Condition of Average.

What is Underinsurance?

This condition of underinsurance states that:

- a. If a loss occurs
- b. And if the value insured is less than the value at risk
- c. The amount of loss payable
- d. Will be reduced
- e. In proportion to the amount of underinsurance.

We will consider a simple example to understand this concept.

RST Chemicals insures its stock of chemicals in its warehouse. The value of the total stock is ₹15 Crores. But it was insured only for ₹10 Crores. In a fire accident, stock of chemicals worth ₹3 Crores was destroyed. Though ₹3 Crores is less than the insured amount of ₹10 Crores, the Insurer would not pay ₹3 Crores. They would pay less. Why? And how much?

They will pay less because the value insured is ₹10 Crores. The value at risk is ₹15 Crores, which is the total value of chemicals in that warehouse. Therefore, there is underinsurance. Underinsurance arises wherever the sum insured is less than the value at risk.

Underinsurance= Value at risk - Sum Insured.

In this case the under insurance is ₹5 Crores. (15 Crores - 10 Crores).

Underinsurance is imposed as a percentage of Value at Risk on the loss payable.

Underinsurance is ₹5 Crores.

Value at Risk is ₹15 Crores.

Underinsurance=5/15=33.33%

The percentage of Underinsurance is $5/15 \times 100 = 33.33\%$. Hence a 33.33% deduction would be made on the loss payable. The loss payable is ₹3 Crores. If RST Chemicals had insured its stock for the full value at risk of ₹15 Crores, they would have been fully indemnified and paid ₹3 Crores. But since they insured it only for ₹10 Crores, a 33.33% Deduction would be made towards underinsurance. Therefore, RST Chemicals would get only ₹2 Crores from the Insurers, though the value of chemicals lost is ₹3 Crores. They get lesser amount because of underinsurance.

In any claim, if the Sum Insured is less than the value at risk, there is underinsurance.

And the amount payable after underinsurance could be calculated by the formula:

$$\text{Amount Payable after Underinsurance} = \frac{\text{Loss Assessed}}{\text{Value at Risk}} \times \frac{\text{Sum Insured}}{\text{Value at Risk}}$$

Take the present case, and apply the formula:

$$\text{Amount Payable after Underinsurance} = 3 \times \frac{10}{15} = ₹2 \text{ Crores.}$$

Why Underinsurance?

Underinsurance is a penalty for not insuring to the full extent of the exposure. In most of the cases, the amount of loss would not be upto the Value at Risk. Therefore, people could be tempted to insure for a lesser value than the value at risk. But as the value at risk goes up, the probability for loss also goes up. Therefore the premium should also go up. In order to penalise people who are not paying adequate premium in relation to their exposure, underinsurance clause is applied. Underinsurance is that portion of the value at risk which is not covered by insurance, and hence self insured. The customer has to bear that portion of value at risk which is not insured. Underinsurance clause thus motivates people to pay insurance premium in line with the value at risk, and to not insure for a lesser amount.

Policies without Underinsurance Clause

Property policies generally have the underwriting clause. But not all Indemnity Policies have Underinsurance Clause. For example, Motor Insurance Policies do not have underinsurance clause. Health Insurance Policies do not have underinsurance clause. Indemnity under Liability Policies are usually capped at Any One Accident limit, and they do not have underinsurance clause.

3. Salvage

In a property loss, some amount could be saved from the damage. This amount depends on the nature of property insured, and the cause and extent of loss. In most cases, some value is recoverable as scrap. In some cases, the goods are partly damaged and have some residual value. The value that could be recovered from the damaged property is called salvage. When a claim is settled, the salvage value is reduced from the amount payable.

4. Policy Limits

Almost all insurance policies specify the maximum amount of claim that is recoverable under the Policy. This amount is called the Sum Insured. No matter what the amount of loss is, if it exceeds the Sum Insured, the maximum amount payable is restricted to the Sum Insured. Thus, even if JKL Traders lost ₹5 Crores worth of stock, if they have insured it only for ₹4 Crores, the Insurers would pay only ₹4 Crores. Because the Sum insured is ₹4 Crores. Similarly, in Liability Claims, the amount payable is restricted to the Any One Accident Limits. For example, even if the Court has awarded compensation payable by the Insured to the victim for a higher amount, the Indemnity by the Insurer would be restricted to the Any One Accident Limit.

- We saw that Indemnity is placing the person in the same financial position as he was prior to the loss.
- We saw how Indemnity is calculated in different lines of business.
- We saw how Indemnity is paid in different contexts.
- We also saw the circumstances where the amount paid by the Insurer is less than the amount of loss.

But, all Insurance Contracts are not contracts of Indemnity. While Indemnity contracts pay the actual amount of loss and nothing more, there are some contracts which pay a specified sum, regardless of the actual loss. They pay the specified amount, even if there is a lesser loss, or even if the loss cannot be quantified.

We will now see Insurance Contracts which are not contracts of Indemnity.

INSURANCE CONTRACTS WHICH ARE NOT INDEMNITY BASED

Life Insurance

In fact, all life insurance contracts are benefit based contracts and life insurance contracts are certainly not contracts of indemnity. A benefit based contract is one where a fixed benefit, stated as the Sum Insured, is payable on the occurrence of an insured event. The insured event could be the death of the insured person or the maturity of the Policy term.

All life insurance policies promise to pay a fixed sum called Sum Insured if the life assured dies during the currency of the policy. In these cases, the Insurer does not calculate whether the Sum Insured is adequate or excessive in relation to the earnings of the person at the time of his death. Of course, such calculations are made at the time of the proposal. But once a Sum Insured is accepted and stated in the Policy, the Insurer pays the amount, irrespective of the change in circumstances.

For instance, K is earning a good salary in his job as a software engineer in a leading technology firm. Based on his earning, the Insurer granted him a Life Insurance Policy for ₹1 Crore. After three years of taking the Policy, K lost his job and is now without any employment. Five years after taking the Policy, K dies. At the time of his death, K is not earning anything. Yet, the Life Insurer would not assess the value of his life as at the time of his death. Regardless of his economic status at the time of his death, K's family would receive the Sum Insured of ₹1 Crore.

The Sum Insured under a Life Insurance Policy is fixed taking into account the following factors relating to the Proposer:

- Age
- Qualification
- Occupation
- Annual Income
- Other benefits
- Size and dependence of family

Apart from Life Insurance Policies, Personal Accident Policies too pay a fixed amount on the accidental death of the Insured Person. Here too, the Sum Insured is usually fixed as a multiple of the Insured Person's monthly income and could be around 100 to 120 months' income.

Critical Illness Benefit Insurance

Yet another type of Benefit based Insurance Contract is the Critical Illness Benefit insurance. After taking the Policy, if the Insured Person is diagnosed with Cancer, Renal Failure, or such other named Critical Illness, the Sum Insured is paid as a

Fixed Benefit. In this case, the Insured need not submit any proof of having spent the money towards treatment for such an illness. The very fact that he is suffering from the named illness would mean that the Insurer would pay the Fixed Benefit.

Parametric Insurance

Parametric Insurance is evolving as a new type of insurance in recent years. Parametric Insurance is similar to Benefit based insurance in the sense that a fixed amount is payable irrespective of the underlying loss. The claim under Parametric Insurance is triggered upon the occurrence of the stated event. The stated event should be measurable on some accepted scale. Earthquakes beyond a stated magnitude on the Richter Scale, Rainfall beyond a stated level and such other measured events trigger the claim under Parametric Insurance. The distinguishing feature of Parametric Insurance as compared to traditional Flood or Earthquake insurance is that in Parametric Insurance, the amount would be paid even if the Insured did not lose anything. Financial loss is thus not a prerequisite for making a claim under this type of insurance.

Marine Insurance

A Marine Policy could be a Valued Policy, or an Unvalued Policy.

Section 29 of the Marine Insurance Act, 1963 states:

“Valued policy.

- (1) A policy may be either valued or unvalued.
- (2) A valued policy is a policy which specifies the agreed value of the subject-matter insured.
- (3) Subject to the provisions of this Act, and in the absence of fraud, the value fixed by the policy is, as between the insurer and assured, conclusive of the insurable value of the subject intended to be insured, whether the loss be total or partial.”

In Marine Insurance, most of the Policies are Valued Policies. In the case of a total loss under a Marine Valued Policy, the Sum Insured is paid in full, regardless of the value at the time and place of loss. If part of the cargo is lost, proportionate Sum Insured is paid.

While in an Indemnity Policy the value as at the date and place of loss will be paid, in a Marine Valued Policy, the Sum Insured would be paid, regardless of the value at the time and place of loss. Thus, in the strictest sense, Marine Policies are not Indemnity Policies.

Test Yourself 2

If the Sum Insured for machinery in a factory is ₹50,00,000 and the Value at risk is ₹40,00,000 and there is a loss for ₹10,00,000 what amount should be paid to the Insured?

- A. ₹ 8,00,000
- B. ₹12,50,000
- C. ₹10,00,000
- D. ₹40,00,000

Answers to test yourself

Answer to Test Yourself 1

The correct answer is B. The life of the Building is 50 years. Therefore, the rate of depreciation is 2% per annum. ($1/50 * 100$). Since the Building is already 20 years old, depreciation for 20 years at 2% per annum has to be deducted. $2\% * 20 = 40\%$. The new value is ₹50,00,000. Applying the depreciation of 40% on the new value, the depreciation amount to be deducted is ₹20,00,000 ($40\% * 50,00,000$). Therefore, the loss payable is ₹30,00,000. ($50,00,000 - \text{depreciation } 20,00,000$)

Answer to Test Yourself 2

The correct answer is C. It should be remembered that in this problem, there is no underinsurance. Underinsurance applies only where the value at risk is more than the Sum Insured. In this case value at risk of ₹40,00,000 is less than the Sum Insured of ₹50,00,000. Hence, underinsurance will not be applied, and the loss amount of ₹10,00,000 will be paid. Please also note that the underinsurance formula will not be applied for overinsurance. If the formula for underinsurance

$$\text{Loss Assessed} \times \frac{\text{Sum Insured}}{\text{Value at Risk}}$$

Is applied for overinsurance, as in this case, then the Insured will get $10 * 50 / 40 = ₹12,50,000$. The actual loss is ₹10,00,000 whereas he could get ₹12,50,000. This is against the principle of Indemnity. The formula is applied only when there is underinsurance. The formula is applied only when the Sum Insured is less than the Value at Risk.

Summary:

- Indemnity is compensating the Insured customer for the loss he suffered, but never more than the loss.
 - Indemnity is determined based on the amount of loss at the time and place of loss.
 - Generally accepted practices are adopted in deciding Indemnity for different types of property
 - Indemnity is limited by Deductibles, Underinsurance, Salvage and Policy Limits
 - Payment by cheque or bank credit is the most popular mode of Indemnity
 - Some contracts, like Life Insurance Contracts, are not Contracts of Indemnity
-

Self-examination questions

Question 1

Kumar bought 100 bags of Cement at ₹1,000 per bag. He insured them for ₹1,50,000. In a flood loss, 50 bags were destroyed. At the time of loss, Cement was selling at ₹2,000 per bag. What is the amount of loss Kumar would get from his Insurers?

- A. ₹1,00,000
- B. ₹ 50,000
- C. ₹ 75,000
- D. ₹1,50,000

Question 2

Raju had a Health Insurance Policy for ₹3,00,000. His Policy had a Co Pay of 20%. He was admitted to a Hospital for an Illness, and spent ₹60,000. How much would he get from his Insurer?

- A. ₹ 48,000
- B. ₹ 60,000
- C. ₹3,00,000
- D. ₹2,40,000

Question 3

Which of the following Policies has an underinsurance Clause?

- A. Health Insurance
- B. Fire Insurance
- C. Motor Insurance
- D. Liability Insurance

Question 4

Which of the following is not a Benefit Policy?

- A. Personal Accident
- B. Life Insurance
- C. Critical Care Benefit Insurance
- D. Marine Insurance

Answers to self-examination questions:

Answer to Question 1:

The correct option is C.

The value at Risk is ₹2,00,000 (100 bags at ₹2,000 per bag). Sum Insured is ₹1,50,000. Hence there is underinsurance. Loss is ₹1,00,000 (50 bags at ₹2,000 per bag). Applying underinsurance formula,

$$\text{Loss Assessed} \times \frac{\text{Sum Insured}}{\text{Value at Risk}}$$

Loss payable after deducting for underinsurance is,
 $1,00,000 * 150,000 / 2,00,000 = ₹75,000$

Answer to Question 2:

The correct option is A.

On the amount of loss of ₹60,000, a 20% Co Pay is to be deducted which is ₹12,000 (20% of 60,000). Hence only ₹48,000 is payable. (60,000-12,000)

Answer to Question 3:

The correct option is B.

Answer to Question 4:

The correct option is D.



CHAPTER 6

PRINCIPLES OF INSURANCE- THREE

SUBROGATION, CONTRIBUTION AND PROXIMATE CAUSE

Chapter Introduction:

In the previous two Chapters we learnt the three important Principles of Insurance:

1. Utmost Good Faith
2. Insurable Interest
3. Indemnity

In this Chapter, we will understand the other three important Principles:

4. Subrogation
5. Contribution
6. Proximate Cause

■ Learning Outcomes

- a) Understand Subrogation, and learn How and When does Subrogation Arise
- b) Learn the necessity for Contribution and understand how it works
- c) Understand the principle of Proximate Cause



1. Understand Subrogation, and learn How and When does Subrogation Arise Learning Outcome (a)

SUBROGATION

Both Subrogation and Contribution are corollaries to the Principle of Indemnity. While studying Indemnity, we learnt that the Insured customer should receive compensation for his loss, but never more than the amount of loss.

There are occasions, where the customer could get compensation from the Insurance company for the loss, and also from a Third Party. In such occasions, the customer could get more than the amount he lost. The Principle of Subrogation ensures that this does not happen.

If a person is injured or his property is damaged due to a negligent act of a third party, that third party is responsible to compensate that person for the injury or damage. This duty to compensate the person who is injured or whose property is damaged is evolved from Tort, a common law concept.

Now consider this case: Anuj had insured his property with an Insurer. His property was damaged by the negligent act of a Third Party. The Insurance Policy covers damage caused by such Third Party negligence. In such a situation,

1. Anuj can claim compensation from the Insurance Company because he has insured his property.
2. Anuj can claim compensation from the Third Party who, by his negligence, caused the damage to Anuj's property.

Can Anuj claim compensation from both: the Insurance Company, and the Third Party?

In theory, yes, the Anuj can get compensation from the Insurance Company and also from the Third Party. But, in practice, no. Because, the Principle of Subrogation would ensure that Anuj does not get more compensation than the amount of his loss.

Subrogation is the transfer of the rights of the Insured Customer against the Third Party who caused the damage, to the Insurer who compensates the Customer for the damage.

Consider the case of Rekha. She has insured her car with Murphy Insurance Company. One day, while Rekha was driving the car and waiting at the signal, a car driven by Rocky hit against Rekha's car. Rekha's car was damaged and Murphy Insurance compensated her for the loss. But before settling the claim, Murphy Insurance would ask Rekha to transfer her rights against Rocky for claiming

compensation for the damage. This transfer of Rekha's right against Rocky to Murphy Insurance is called subrogation. Subrogation is the transfer of the right of a person against a third party who caused the loss to the Insurer who compensated the loss.

In the Rekha example, having settled the claim for Rekha's car, Murphy Insurance can proceed against Rocky and get the compensation.

It should be remembered, that Murphy Insurance has no right of action against Rocky. Only Rekha has a right of action against Rocky. So when Rekha subrogates her right to claim compensation from Rocky to Murphy Insurance, the Insurer, Murphy Insurance cannot file a case in their name, but only as powerholders for Rekha. But any recovery from Rocky could be kept by Murphy Insurance as long as such recovery is less than the amount paid by them to Rekha. If they recover more from Rocky than what they had paid Rekha, such excess recovery has to be paid to Rekha.

How does Subrogation Arise?

In the previous examples, we saw that subrogation could arise whenever the Insured customer has a right of recovering compensation from the Third Party whose negligence caused the damage. Thus, these are cases where Subrogation arises by Tort. We will now see what are the ways in which a right of action could arise.

1. Right Arising Under Tort

Tort is a civil wrong. Each person owes a duty of care to others. The duty of care is to conduct one's activities in such a manner as to not cause injury to another person or damage to another person's property. If that duty of care is breached, and another person is injured or another person's property is damaged, the negligent person has to compensate the loss suffered by that another person.

The victim - the person who was injured or whose property was damaged, has a right against the Tortfeasor- the person whose negligent act caused injury or damage to the victim. This right is subrogated to the Insurer who compensates the victim for the loss due to the damage to his property. Thus Subrogation arises under Tort.

2. Right Arising Under Contract

A building owner could let his house on rent to a tenant. The tenancy agreement could contain a clause that the tenant is responsible for all damages to the building during the period of the tenancy. If the building catches fire during this tenancy, the building owner could claim the loss to his building from the Insurer. But he will transfer his right against the tenant under the contract of tenancy to the Insurer. Thus, Subrogation could arise under Contract.

3. Statutory Right

Many laws expressly stipulate that the negligent party compensate the victim. For example, the Carriage of Goods by Road Act stipulates that the Carrier (the transporter of the goods) shall be liable for loss of or damage to goods transported under a goods receipt. Here, the goods receipt is the Contract of Affreightment. If the goods transported by a person is damaged due to the negligence of the carrier or of his servants, the carrier shall be liable for the damage. If the goods are insured, the owner of the goods will be compensated by the Marine Insurer. But on settling the claim, the Marine Insurer would get this right of the owner of the goods to recover compensation from the carrier subrogated to them.

4. Right Arising under the Subject Matter of Insurance

While studying the Principle of Indemnity in the previous Chapter, we saw that in settling property claims, the value of the salvage is deducted. Similarly, in other claims the subject matter could be recovered after settlement of the claim by the Insurer.

Take the case of a Burglary. Neeta's watch shop was burgled. The criminals could not be arrested. The Insurer settles the claim. While settling the claim, Neeta's Insurer would get her right to recover the watches subrogated to them. Three months after Neeta's Insurer settled the claim, the burglars are arrested and part of the loot of watches is recovered. Now, the Insurer, under Subrogation rights, can claim the watches, sell it and retain the money to themselves.

Such right to recover the proceeds of the subject matter for which the claim has been settled is a right of Subrogation arising under the subject matter of insurance.

When Does Subrogation Arise?

Generally, Subrogation arises only when the Insurer settles the claim to the customer. But some Policies provide that the Insurer shall have the right even before settlement of the claim. Such right is secured so that the Insurer could speedily dispose damaged goods and keep the sale money to the credit of whom it may concern. If the claim is admitted, the sale money is retained by the Insurer and full claim is settled. If the claim is not admitted, the sale money is returned to the customer. What should be noted here is that even before deciding whether the Insurer is liable to pay the claim, the right of Subrogation could be exercised by the Insurer.

Waiver of Subrogation Rights

Generally, when the Insurer settles the claim to the Insured, the right of Subrogation is exercised. The right of the customer against the Third Party gets transferred to the Insurer.

But in some cases, the Insurer might not exercise this right. The situations where Subrogation rights are not exercised are:

1. Knock for Knock Agreement

A's car is Insured with AAA Insurance and B's Car is insured with BBB Insurance. A's car is damaged by B negligently crashing his car into A's car. On settling A's car claim, AAA will get the right that A has against B subrogated to him. When AAA Insurance files a case against B for his negligence in causing damage to A's car, B will say that his car is insured for Third Party Liability with BBB Insurance. Therefore AAA Insurance will file a case against BBB Insurance.

In another case, vehicle insured with BBB Insurance might get damaged by another car insured with AAA Insurance. BBB Insurance will file a case against AAA Insurance. Thus, Insurers could keep filing cases against each other.

To avoid this kind of endless litigation, Indian Insurers have entered into an agreement with each other. This agreement is called a Knock for Knock Agreement. Under this agreement, one Insurer does not file a case against the owner of the negligent vehicle which is insured with another Insurer.

2. Principal and Contractor

If A engages B, the Contractor to construct a building for him, A is the Principal and B is the Contractor. The building being constructed is the Project.

Some Contractors would not like to be burdened with cases filed by the Insurers of the Principals for damage to the Project. In such cases, the Contractors request the Principals to have waiver of subrogation as a clause in the Principal's Project Insurance Policies. In such cases, Subrogation Rights are waived.

In the example of A the Principal and B the Contractor, if the building being constructed is damaged due to the negligence of Contractor B, A's Insurer would pay A. But A's Insurer would not file a case against Contractor B, if the Insurance has a waiver of Subrogation Clause.

Subrogation only in Indemnity Contracts

Subrogation arises only in Indemnity Contracts. It does not arise in Benefit Contracts. Subrogation is not applicable for Benefit Contracts because benefits are mostly paid for specific events like loss of life, loss of limb or diagnosis of a Critical Illness. Benefit Policies pay the stated sum as benefit, on the occurrence of the event. The financial loss arising out of these events could not be exactly quantified. Therefore, Subrogation does not apply for Benefit Contracts.

For example Nikhil is insured for his life with Life Insurer LLL Insurance for ₹50 Lakhs. One day, when Nikhil is walking on the road, he is hit by a truck and he dies. Now Nikhil's wife and children have a right to claim compensation against

the truck owner for killing Nikhil. But, while settling Nikhil's death claim, LLL Insurance does not get Subrogation rights. LLL Insurance cannot file a case against the owner of the truck. Nikhil's wife and children can receive the claim amount of 50 Lakhs from LLL Insurance, and also file a case against the truck owner and get compensation from him too.

Test Yourself 1

In which of the following events will Subrogation not arise?

- A. Arun's vehicle is hit by a State Transport Bus which is not insured with any Insurance Company.
 - B. Ajay's consignment of imported goods is damaged during transit.
 - C. Ashok is killed by a State Transport Bus.
 - D. Anand's vehicle is stolen.
-

2. Learn the necessity for Contribution and understand how it works
Learning Outcome (b)

CONTRIBUTION

Contribution is also a Principle supplementary to the Principle of Indemnity. Contribution applies wherever there is more than one Policy indemnifying the loss.

For example, a vehicle is insured for ₹10 Lakhs with Insurer U and for ₹10 Lakhs with Insurer V. If the vehicle is stolen, the customer cannot get ₹10 Lakhs from U and another ₹10 Lakhs from V. In this case, Insurer U will pay ₹5 Lakhs, and Insurer V will pay ₹5 Lakhs. Thus, Insurer U and Insurer V equally contribute to the loss, since both of them have insured the vehicle for identical sum insured.

Take another example. Total stock is valued at ₹5 Lakhs. Insurer K has insured the stock for ₹3 Lakhs, and Insurer L has insured the stock for ₹2 Lakhs. If stock worth ₹1 Lakh is lost in a fire accident, Insurer K will pay ₹60,000 and Insurer L will pay ₹40,000. In this case, the Insurers contribute to the loss in proportion to their coverage, 3:2.

Contribution is thus a right of the Insurer under Indemnity Policies to restrict their liability to a proportionate share of the loss, if there is more than one Indemnity Policy covering the loss.

Requirement for Contribution

Contribution will arise only if all the following conditions are present:

1. Two or more Policies of Indemnity exist

Contribution would apply only when the concerned Policies are Indemnity Policies. Contribution would not apply for Benefit Policies.

2. The Policies cover a common interest

In order to exercise Contribution, both Policies should cover the same interest. Consider a case where a Motor Vehicle is covered by a Third Party Liability Policy. This vehicle hits an Employee of a Factory who is on duty at that Factory. The Factory owner has an Employee Compensation Policy. The liability for the injury to the employee is thus covered by both the policies- the Motor Policy and the Employee Compensation Policy. But, if the employee of the Factory files a case against the Motor vehicle, the Employee Compensation Policy of the Factory Owner need not contribute to the liability under the Motor Vehicle Policy, because the interests are different. The Motor Policy covers the interest of the Vehicle Owner. The Employee Compensation Policy covers the liability of

the Factory Owner. Both interests are different and therefore Contribution will not arise.

3. The Policies cover a common subject matter

If one Policy covers Stock, and the other Policy covers Building, then Contribution will not apply.

4. The loss is caused by a Peril covered by all these Policies

If one is a Burglary Policy and the other is a Fire Policy, Contribution Clause will not be applicable.

5. The Policies are liable for the loss

If, for any reason, one of the Policies is not liable for the loss, it need not contribute to the loss.

Contribution and Underinsurance

In the two examples we had discussed, we saw that the Policies contribute to the loss in proportion to the Sum Insured. But, the entire loss would not be shared by both the Policies, if the Value at Risk is more than the total Sum Insured under both the Policies. Consider two Scenarios: Scenario A, and Scenario B:

| DETAILS OF INSURANCE FOR JO JO TRADERS | SCENARIO A | SCENARIO B |
|--|------------|------------|
| VALUE AT RISK | 4,00,000 | 5,00,000 |
| SUM INSURED WITH VISHAL INSURANCE | 3,00,000 | 3,00,000 |
| SUM INSURED WITH VAISHALI INSURANCE | 1,00,000 | 1,00,000 |
| AMOUNT OF LOSS | 2,00,000 | 2,00,000 |

In Scenario A, the Value at Risk is 4,00,000. The total Sum Insured of both the Policies is 4,00,000. Therefore there is no underinsurance. If there is no underinsurance, the loss is shared in proportion to the Sum Insured of each Insurer. Hence in Scenario A, Vishal Insurance will pay 1,50,000 ($3/4 * 2,00,000$). Vaishali Insurance will pay 50,000 ($1/4 * 2,00,000$). Jo Jo Traders lost 2,00,000 and they got 1,50,000 from Vishal Insurance and 50,000 from Vaishali Insurance. Their loss is fully indemnified by both the insurers, as there is no underinsurance.

Now, consider Scenario B. Value at Risk is 5,00,000. Sum Insured under both the Policies is 4,00,000. In this case there is underinsurance. Therefore, Jo Jo Traders would not get 2,00,000. But, how then would both the Insurers contribute to the loss? In Scenario B, since there is underinsurance, we have to apply the underinsurance formula. Remember the formula to calculate the loss after applying underinsurance.

$$\text{Loss Assessed} \times \frac{\text{Sum Insured}}{\text{Value at Risk}}$$

Applying the formula, we get:

Scenario B:

Vishal Insurance:

$$2,00,000 \times \frac{3,00,000}{5,00,000} = 1,20,000$$

Vaishali Insurance:

$$2,00,000 \times \frac{1,00,000}{5,00,000} = 40,000$$

In Scenario B, since the sum of the Sum Insured under both the Policies is less than the Value at Risk, there is underinsurance. Hence, Jo Jo Traders gets 1,20,000 from Vishal Insurance and 40,000 from Vaishali Insurance. Jo Jo's loss is 2,00,000 but they get only 1,60,000 from both the Insurers, as they have underinsured their stock.

| DETAILS | SCENARIO A | SCENARIO B |
|-------------------------------------|------------|------------|
| VALUE AT RISK | 4,00,000 | 5,00,000 |
| SUM INSURED WITH VISHAL INSURANCE | 3,00,000 | 3,00,000 |
| SUM INSURED WITH VAISHALI INSURANCE | 1,00,000 | 1,00,000 |
| AMOUNT OF LOSS | 2,00,000 | 2,00,000 |
| LOSS PAID BY VISHAL INSURANCE | 1,50,000 | 1,20,000 |
| LOSS PAID BY VAISHALI INSURANCE | 50,000 | 40,000 |

The Thumb rule is this:

- ❖ If the total Sum Insured of all Policies is more than the Value at Risk or equal to the Value at Risk, there is no underinsurance. In such cases, the loss is shared by the Insurers in proportion to their respective Sum Insured.
- ❖ If the total Sum Insured of all Policies is less than the Value at Risk, there is underinsurance. In such cases, where there is underinsurance, apply the formula:

$$\text{Loss Assessed} \times \frac{\text{Sum Insured}}{\text{Value at Risk}}$$

to calculate the share of loss of each Insurer.

EXCEPTIONS TO CONTRIBUTION

In general, all policies have Contribution Clause. The Contribution Clause states that the Insurer would pay only a proportionate share of the loss and nothing more. Thus, if a vehicle is insured for the same Sum Insured under two policies, each Insurer would pay only 50% of the Sum Insured and nothing more. There are two exceptions, where the Contribution Clause is different -Marine and Health.

Contribution in Marine

In Marine Policies, Section 34(2) (a) of the Marine Insurance Act provides:

"the assured, unless the policy otherwise provides, may claim payment from the insurers in such order as he may think fit, provided that he is not entitled to receive any sum in excess of the indemnity allowed by this Act;

What this means is that Insurers might permit the customer to choose the Insurer from whom they want to claim the loss amount, or from both Insurers in whatever order of preference chosen by the customer, provided the customer does not receive more money than he lost.

Contribution in Health

In India, Health Insurance Policies have a Standard Contribution Clause. Under this Clause, the customer can choose which Insurer he wants to take the claim from. For example, Guru is covered with Gaurav Insurance and Ghosh Insurance. In both Policies, the Sum Insured is 10 Lakhs each. If Guru is hospitalised, and incurs an expense of ₹2 Lakhs, Guru can ask Gaurav Insurance to pay ₹2 Lakhs. In this case, Gaurav cannot insist that they would pay only ₹1 lakh towards their proportion of the loss. Guru can choose the Insurer from whom he wishes to claim the loss. Even if the loss is for ₹15 lakhs, Guru can claim ₹10 Lakhs from Ghosh Insurance and ₹5 Lakhs from Gaurav Insurance.

Marine and Health Insurance Policies are exceptions. Apart from Marine and Health Policies, generally Indemnity Policies provide for Contribution Clause whereby the Insurer need not pay more than their proportionate share of the loss.

No Contribution in Benefit Policies

Just as we saw that Subrogation does not apply to Benefit Policies, Contribution too does not apply to Benefit Policies.

Anita could be insured for her life with Aditi Insurance and Ayush Insurance, say for ₹50 Lakhs each. In the event of her death, Aditi and Ayush cannot pay ₹25 lakhs each. Aditi would pay ₹50 Lakhs, and Ayush would pay ₹50 Lakhs.

Test Yourself 2

Sanjay insured his goods with Ratan Insurance for ₹20,00,000 and with Rashmi Insurance for ₹30,00,000. On the date of loss, the total value of the goods at risk is ₹75,00,000. If the loss to the goods is ₹45,00,000 how much will Rashmi pay Sanjay?

- A. ₹30,00,000
- B. ₹45,00,000
- C. ₹18,00,000
- D. ₹12,00,000

3. Understand the principle of Proximate Cause

Learning Outcome (c)

PROXIMATE CAUSE

In the insurance world, there is no Policy which covers all kinds of Perils. Even coverage under All Risks Policy does not cover all Perils. Therefore, in any Insurance, there are some Perils which are covered, there are some Perils which are not covered, and some Perils which are specifically excluded.

If a loss is caused by a single Peril, then there is no issue. All that the Insurer needs to do is to ascertain whether the loss is caused by the Insured Peril or not. If the loss is caused by the Insured Peril, the Insurer pays. If the loss is not caused by the Insured Peril, he rejects the claim.

But, in life nothing is simple. There are losses caused by the operation of more than one Peril, happening one after the other, or simultaneously. In such cases, it could be difficult to ascertain whether the Insured Peril caused the loss, or the uninsured or excluded Peril caused the loss. The Principle of Proximate Cause has evolved to guide Insurers in this difficult task of ascertaining the cause of loss.

Before we study the Principle of Proximate Cause, we should understand two kinds of Policies, and three kinds of Perils.

a. Named Peril Policies

In Named Peril Policies, the Perils that are covered under the Policy are named.

For example, the Standard Fire and Special Perils Policy covers the following Perils:

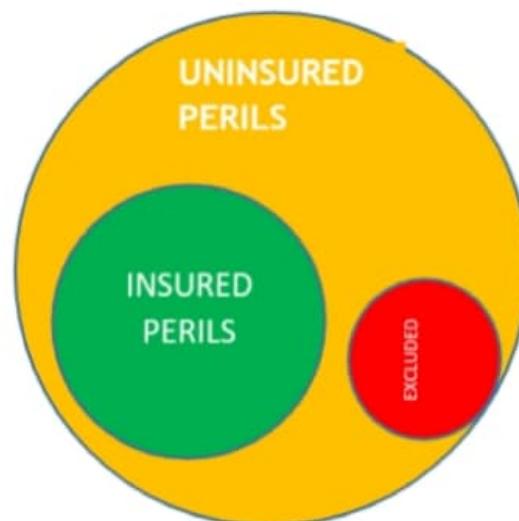
| PERIL |
|---------------------------------------|
| FIRE |
| AIRCRAFT DAMAGE |
| STORM, FLOOD, INUNDATION |
| SUBSIDENCE AND LANDSLIDE |
| BUSH FIRE |
| BURSTING |
| EXPLOSION |
| RIOT, STRIKE, MALICIOUS DAMAGE |
| IMPACT DAMAGE |
| SPRINKLER LEAKAGE |
| LIGHTNING |
| MISSILE TESTING |

In any loss, the claim is payable, only if the loss is caused by any of these named Perils. A loss caused by any other Peril not named here is not covered.

Though every Peril which is not named in the Policy is an uncovered Peril, the Policy does exclude certain Perils specifically, in order to bring clarity on coverage. For example, the Standard Fire and Special Perils Policy specifically excludes Earthquake, War and Forest Fire. So, in a named Peril Policy, we have three sets of Perils.

- a. Insured Perils
- b. Excluded Perils
- c. Uninsured Perils

The Green Circle reflects Insured Perils, the Red Circle reflects Excluded Perils and the Orange Circle is what remains in the universe of Perils, after Insured and Excluded Perils. The Orange Circle is thus Uninsured Perils.



For example, in a Fire Policy, Perils like Fire and Lightning are named and are Insured Perils. Perils like War, Earthquake and Forest Fire are excluded Perils. Other Perils such as infidelity, third party liability etc. are Uninsured Perils.

b. All Risk Policies

An All Risk Policy does not name the Perils that are insured. Instead, it names the Perils that are excluded. Hence, in an All Risk Policy, any Peril that is not excluded is insured.

In this Diagram, the Excluded Perils are those in the Red Circle. All the remaining Perils, though not named are Insured Perils.

Hence in an All Risk Policy, you have two sets of Perils:

- a. Excluded Perils
- b. Insured Perils.



What is Proximate Cause?

There could not be a more precise and elegant definition of Proximate Cause than that by Lord Jung in the case of Pawsey Vs. Scottish Union (1907).

“Proximate Cause means the active efficient cause that sets in motion a train of events which brings about a result without the intervention of any force started and working actively from a new and independent source.”

Each element of this definition is valuable, and we will examine them closely.

1. The active efficient cause

What is proximate cause? The word proximate means immediate. We should not be misled by the word ‘proximate’ to believe that the cause which is immediate to the loss is the proximate cause.

Consider this train of events in a Policy covering Fire Peril. The train of events results in loss to stock kept in open near Building C:

- At 8.10 Building A catches fire
- At 8.20 The Fire spreads from Building A to Building B
- At 8.30 The Fire spreads from Building B to Building C
- At 8.40 The Fire that spread to Building C damages its wall and the damaged wall falls on stock kept in open space near Building C and damages the stock.

Now the immediate cause of the loss is the fall of a wall on the stock. It is proximate in time. This is not a covered Peril. So if we take the immediate cause as the proximate cause of loss, the loss is not payable.

But in Insurance, what is relevant is not the immediate cause, but the Proximate Cause. Here, the word proximate means in terms of efficiency, the dominant cause, which caused the loss. Was the fall of the wall the Proximate Cause? No. The fall of the wall was the immediate cause, but not the active Cause. The fall of the wall was the result of a train of events set in motion by the Fire in Building A, which finally results in damage to the stock, without the intervention of any new cause. Therefore, Fire is the active, efficient cause. The nearest cause, the immediate cause is the fall of the wall. But the proximate cause is Fire. Since the Policy covers Fire Peril, the claim is payable.

Similarly, stock damaged by water sprayed during fire fighting is also payable. Though, the damage is because of water, there is an unbroken train of events from fire to water spray. In Fire Policies, such losses occurring during fire fighting are covered.

2. A Train of Events

A loss could be caused by a single Peril. If it is a single Peril that caused the loss, there is no problem at all. In some cases, a loss could be caused by a number of Perils. These Perils could be happening one after the other, a train of events: G causes H, H causes J, J causes L and L causes the loss. Such a train of events is a Sequence of Causes.

Some times two causes could be happening together, not necessarily one after the other, but simultaneously. Such simultaneous causes are called concurrent causes.

We will examine the concept of Proximate Cause in both: Sequence of Causes and Concurrent Causes.

Sequence of Causes

If the loss is caused by a sequence of causes, acting one after the other, then the loss which started the sequence is the Proximate Cause, provided, no other new cause intervened.

Consider this example:

Basu is insured under a Personal Accident Policy which covers death due to accident. The Policy excludes death due to illness.

One morning, Basu goes horse riding in a remote location in a hill station. He fell from his horse. The fall resulted in injuries to his spine, and he could not move. He lay there on the cold, damp grass. He thus caught pneumonia and died.

Now what is the Proximate Cause in this case? Accident (the accidental fall from the horse), or Illness (the pneumonia)? If the Proximate Cause is Accident,

Basu's family would get the claim amount. If the Proximate Cause is Illness, the claim would not be paid.

The Proximate Cause, in this case, is indeed, Accident. Remember, the definition. A train of events unbroken by a new cause. A train of events that starts with the accidental fall, the injured spine, his inability to move, and catching pneumonia and dying. An unbroken train of events. So, the Proximate Cause here is Accident. (See Etherington v Lancashire and Yorkshire Accident Insurance Co. case)

Intervention of a new force

But if the train of events is broken, then the new cause becomes Proximate Cause, and accident will not be the Proximate Cause. Consider the following case:

A person was injured and taken to the Hospital for treatment of his injury. During his stay at the Hospital, he contracted an infection and died as a result of this infection. In this case, the Court ruled that infection was the proximate cause. Accident is not the proximate cause. Why? Because, the infection was not caused by the accident but by the stay in the hospital. In the first case, there is an unbroken train of events starting with the accidental fall. Hence, accident is the Proximate Cause. In the second case, the train of events is broken by the intervention of a new force, infection. Hence, accident is no more the Proximate Cause.

So, in a sequence of causes, the first cause is the Proximate Cause, provided the train of events is not broken by a new cause. But the moment the train is broken by a new independent force working actively, the new force becomes the Proximate Cause.

CONCURRENT CAUSES

Concurrent means, simultaneous, two causes occurring at the same time. Concurrent Causes could also be further be classified as Concurrent Causes acting independently, and Concurrent Causes acting Interdependently.

Concurrent Causes acting Independently means there are two or more causes acting independent of each other. Acting independent of each other means, neither of the Perils caused the other. Take for example, a Policy covers Fire, but cyclone is excluded. One day, the insured factory is hit by a cyclone, and during the cyclone, there is also a fire. Cyclone and Fire are Concurrent Perils, acting independent of each other. The Cyclone did not cause the Fire. The Fire did not cause the Cyclone. In this case, where there are concurrent Perils, acting Independently, the loss, to the extent caused by the Insured Peril is payable, and any other loss caused by an excluded Peril or by an uninsured Peril is not payable.

In the case of Concurrent Causes acting Interdependently, acting Interdependently means that the loss occurred by the operation of both the Perils, but would not have occurred if only one Peril had operated. In such cases of Concurrent Causes acting Interdependently, the loss is not payable if any of the Cause is an excluded Peril. But the loss is payable if the loss is caused by the operation of an Insured Peril and an Uninsured Peril, but not by an excluded Peril.

Consider the following case:

Milk is transported by an insulated truck from Place A to Place B. The transit covers Riot and Strike. But inherent vice, the perishable nature of the milk, is an excluded Peril.

One day, a Riot took place on the route from Place A to Place B. The Highway was blocked with hundreds of stranded vehicles. The milk tanker was stranded for more than two days, and the milk got spoilt. This is a case of both the Perils-Riot and Strike, and Inherent Vice, acting concurrently and interdependently. One Peril alone would not have caused the loss. In this case, since one of the concurrent causes acting interdependently is an excluded Peril, the loss is not payable.

But if two Perils act interdependently to create a loss, of which:

- One is an Insured Peril, and
 - The other is an Uninsured Peril,
- the loss is payable, as no excluded Peril is involved.

Test Yourself 3

In which of the cases is the loss payable?

- A. The train of insured Perils is broken by a new independent force arising from an excluded Peril
- B. The train of uninsured Perils is broken by a new independent force arising from an Insured Peril
- C. Excluded Peril and Uninsured Peril acting independently
- D. Excluded Peril and Insured Peril acting interdependently

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is C. Death is not the subject of Indemnity. Hence subrogation does not apply.

Answer to Test Yourself 2

Correct Answer is C. $(30,00,000 / 75,00,000 \times 45,00,000 = 18,00,000)$

Answer to Test Yourself 3

Correct Answer is B. The Proximate cause is the Insured Peril, hence the claim is payable.

Summary:

Subrogation and Contribution are Principles that reinforce the Principle of Indemnity. The Insured should be compensated, but never more than fully compensated.

The Principle of Subrogation ensures that the customer does not get compensation from the Insurer and also from the person who caused the damage. Contribution ensures that the customer does not insure with more than one Insurer and thus get more compensation than he lost.

The Principle of Proximate Cause identifies that cause which is the most dominant and most effective in order to ascertain whether the claim is payable.

Self-examination questions

Question 1

Why is Subrogation not applicable to Benefit Contracts?

- A. Human life cannot be valued.
- B. The victim was killed and should get all money he is entitled to.
- C. The one who killed the victim is criminally liable.
- D. To save the dependent's family from filing a case against the Third Party responsible.

Question 2

In relation to Contribution, which of the following statements is incorrect?

- A. At least one of the Policies should be an Indemnity Policy
- B. Both Policies should be liable for the loss
- C. Both Policies should cover the same interest
- D. The loss is caused by a Peril insured by both the Policies.

Question 3

Which of the following statements is incorrect?

- A. Contribution does not apply to Benefit Policies
- B. Contribution applies only if there is underinsurance
- C. Contribution condition is modified in Health Insurance Policies.
- D. Contribution applies only if there is more than one Indemnity Policy

Question 4

What is meant by Concurrent causes?

- A. In All Risk Policies, where the cause could not be identified.
- B. Two or more Perils occurring at the same time
- C. Caused by Electric Short circuit and resulting in Fire.
- D. Different Causes occurring independent of each other.

Answers to self-examination questions:

Answer to Question 1:

The correct option is A.

Human Life cannot be valued. Therefore the Insurers cannot limit their liability and share the loss. They have to pay the amounts they had insured.

Answer to Question 2:

The correct option is A

If one of the Policies is an Indemnity Policy and the other is a Benefit Policy, Contribution Clause will not apply. All the Policies should be Indemnity Policies.

Answer to Question 3:

The correct option is B

Contribution will apply if there is underinsurance, and will also apply if there is no underinsurance.

Answer to Question 4:

The correct option is B.



CHAPTER 7

LEGAL ASPECTS OF INSURANCE

Chapter Introduction

In this Chapter, we will discuss the legal framework for insurance. The Insurance Act gives life and purpose to the insurance enterprise. There are other statutes which have a bearing on insurance and this Chapter will enlighten the students on what these statutes are and how they are relevant to insurance. The Chapter would also discuss interpretation of insurance contracts.

■ Learning Outcomes

- a. Understand what constitutes a Contract, and the elements of a Contract
- b. Learn the legal framework within which the insurance industry operates
- c. Study the different laws that are relevant to insurance
- d. Understand burden of proof and Interpretation of Contracts



- 1. Understand what constitutes a Contract, and the elements of a Contract.**

Learning Outcome (a)

Insurance is a contract. Insurance is an agreement between two parties: the Insurer and the Insured customer. An agreement which is enforceable at law is called a contract. We will later see what are the elements that make a contract. For the present, it bears remembering that insurance is a legally enforceable agreement, a contract, between the Insurer and the customer who is called the Insured.

We learnt that Insurance is a formal loss sharing arrangement. This loss sharing arrangement is formalised by an Insurance Contract. A Contract is an agreement enforceable at law. Not every agreement is a Contract. For example, Ram could have agreed to take Shyam to dinner next Saturday. This agreement is not a Contract. If Ram fails to take Shyam to dinner that Saturday, Shyam cannot file a case against Ram. What is it that makes an agreement enforceable? To be enforceable, a Contract should have all these elements:

1. Offer and Acceptance

A contract is an agreement between two parties. One of the parties makes an offer, and if the other party accepts it, the contract is formed. In Insurance, it is usually the customer who makes the offer for insuring his property or interest. If the Insurer finds the risk insurable, he accepts the offer. On acceptance, the Insurance Contract comes into existence.

2. Consensus Ad Idem

The parties to the agreement should have agreed about the subject matter of the agreement in the same sense and at the same time. If A enters into an agreement with B thinking that he is buying B's house near the market while B is thinking that he is selling the house on the outskirts, there is no identity of mind on the subject matter of the agreement. If there is no such identity of mind, the contract is not valid.

3. Consideration

Both the parties to the contract should derive a benefit out of the contract. Such benefit is called consideration. If R sells his house to S, then R receives money from S. S gets the property transferred to him. Money is the consideration for R, and transfer of property is the consideration for S. In Insurance Contracts, the promise to compensate a loss is the consideration for the Insured Customer. The Premium is the consideration for the Insurer.

4. Capacity

The parties to the Contract should have the capacity to contract. A minor cannot enter into a Contract. A person of unsound mind cannot enter into a Contract.

5. Free Consent

The parties should enter into the agreement on their own free will. An agreement which one party is forced to enter into by threat or coercion is not one with free consent, and therefore cannot be valid.

6. Lawful Object

The purpose of the contract should not be illegal. If P agrees with Q to kill J, this is an illegal agreement, and hence no contract.

7. Possibility of Performance

A promise to do something which is not possible would render the agreement invalid. If X promises Y to turn iron into gold, such a promise is not valid.

The seven elements are necessary to make an agreement enforceable at law. These elements are necessary not only for Insurance Contracts, but for all Contracts.

The parties to the insurance contract have rights under the contract, and such rights are governed by the provisions of the Contract. But such rights have to be exercised within a time limit. The time limit before which such rights could be exercised is stipulated in the Limitations Act, 1963. For example, the time limit for filing a claim for the death of a person under a Life Insurance Contract is three years from the date of death of the person, or three years from the date of denial of the claim for the death of that person by the insurance company. It should thus be noted that both the parties in the insurance contract should exercise their rights thereunder within the time limit stipulated under the Limitations Act, which generally is three years from the date on which the cause of action arises.

Insurance is thus a Contract. But it is different from other Contracts in a few respects. As we have seen, in any Contract, a Duty of Good Faith is required. In Insurance Contracts, a Duty of Utmost Good Faith is required. Apart from the Duty of Utmost Good Faith, certain Principles of Insurance are applicable to Insurance Contracts which are not applied for other Contracts. We have already studied these Principles.

Test Yourself 1

Which of the following is not an element of a Contract?

- A. Consensus Ad Idem.
 - B. Consideration.
 - C. Competence.
 - D. Free Consent.
-

2. Learn the Legal Framework within which the insurance industry operates

Learning Outcome (b)

LEGAL FRAMEWORK

Since Insurance is basically a Contract, the Indian Contract Act, 1872 is applicable to all Insurance Contracts. In addition, some Principles of Insurance are applicable to Insurance Contracts. These Principles are evolved from common law. Common Law means the collective wisdom of the past decisions in Courts. A Judge, while deciding a case, is bound to follow the principles that previous judgements for similar cases have laid down. Such unified body of principles laid down by earlier judgements is called Common Law. Insurance has been practised over centuries. There are landmark judgements on various aspects of Insurance over the centuries, in England, and in India. These judgements, especially those of the higher Courts, are binding on other Courts and have evolved into Common Law Principles. We have studied what the Principles of Insurance are. These Principles form the foundation for Insurance Contracts.

While the Indian Contracts Act and Principles of Insurance guide the formation and performance of Insurance Contracts, there are other legislations which govern insurance operations.

Insurance Act

The Insurance Act, 1938 is the most important legislation which governs insurance operations. It contains the following important provisions:

- The Act provides that nobody can transact insurance business unless authorised by the Insurance Regulatory Authority of India.
- The Act regulates not only the Insurance Companies, but all players in the insurance ecosystem such as Agents, Brokers, other insurance distributors, Surveyors and Third Party Administrators.
- The Act has numerous stipulations on how an Insurance Company and other Insurance Entities should carry on insurance business. A few of these relate to:
 - Registration
 - Capital
 - Foreign Investment
 - Classification of Insurance Business
 - Empowerment of The Authority
 - Licensing of Insurance Entities

- Accounts
- Audit
- Investments
- Control of Insurance Companies' Management
- Control on Expenses of Management

The Insurance Act authorises the IRDAI to discharge many of the supervisory and control functions. Some control functions are vested with the Government. The control functions to be effected by the Government include qualification for Actuaries, ownership and control of Indian Insurance companies, and a few other matters. All other matters are regulated by IRDAI.

IRDAI Act

The Insurance Act empowers the Insurance Regulatory Authority to discharge most of the control functions. The Insurance Regulatory and Development Authority of India Act, 1999 is the legislation that establishes the Authority. It lays down the composition of the Authority, the Chairman, the Members, their appointments and tenure. It also specifies the duties and powers of the Authority in harmony with the Insurance Act.

Test Yourself 2

Which of the following is not true for Common Law?

- A. Common Law is applicable only for India.
 - B. Common Law is the collective wisdom of the Courts.
 - C. The Judgements of the higher Courts are binding on the lower courts.
 - D. Many Insurance Principles are evolved from Common Law.
-

3 Study the different laws that are relevant to insurance

Learning Outcome (c)

Other Statutes

The Insurance Act, 1938 and the Insurance Regulatory and Development Authority of India, Act, 1999 provide the framework for supervision and control of the Insurance Companies and various other insurance entities.

Besides these two legislations, there are other Statutes which have a very high relevance for insurance operations.

- The Indian Contract Act, 1872 governs the rights and responsibilities of parties to any contract, including the Insurance contracts.
- The Marine Insurance Act, 1963 codifies and spells out the law relating to Marine Insurance.
- There is no specific Statute for other lines of business. Yet, they are governed by principles and decisions evolved through common law.
- There are specific statutes which have an important bearing on the coverage and terms of certain lines of insurance. These are:
 - The Motor Vehicles Act, 1989 is an important legislation which provides that any vehicle that runs on the road should be insured. It also provides for liability to Third Party for injury or death and for damage to Third Party Property. The nature and extent of coverage to be offered by the insurance companies is also detailed in the Motor Vehicles Act.
 - Coverage for Employee Compensation is mostly based on the provisions of the Employees Compensation Act, 1923.
- Liability for carriage of goods by different modes of transport is governed by different legislations such as
 - Carriage by Road Act, 2007
 - Carriage of Goods by Sea Act, 1925
 - Carriage of Goods by Air Act, 1972
 - Railways Act, 1989
 - Multimodal Transportation of Goods Act, 1993
- Public Liability or Product Liability mostly arises from the common law of torts, of which we will discuss in detail. But Public Liability for handling hazardous goods is specifically covered under the Public Liability Insurance Act, 1991.
- The Consumer Protection Act, 2019 is an important legislation which provides for a mechanism for customers to approach the relevant forums to have their disputes resolved. Insurance is also defined as a service under the Act.

- The Act provides for establishment of District Consumer Redressal Commission for each District. The District Commission shall have jurisdiction to entertain complaints where the consideration for the service does not exceed ₹One Crore.
- The Act also provides for a State Commission for each State. The State Commission shall be the appellate forum for appeals on any order of the District Commission. The State Commission would also have original jurisdiction on services where the consideration exceeds ₹One Crore, but upto ₹Ten Crores.
- The National Commission constituted under the Act could consider all complaints where the value of consideration exceeds ₹Ten Crores and all appeals against the orders of the State Commission.
- The Real Estate Regulation and Development Act, 2015 is also relevant, as it mandates that the Promoter of a Real Estate Project should obtain all such insurance as is notified by the Government.
- The Companies Act, 2013 also has significant provisions on liability of the Directors which are important for coverage under Directors and Officers Liability Insurance.
- The Mental Healthcare Act, 2017 is relevant in that it requires every insurer to make provision for medical insurance for treatment of mental illness on the same basis as is available for treatment of physical illness.
- The Common Law of torts is important for determining liability under tort. Each one of us owes a duty of care to our fellow citizens. If a person acts negligently so as to cause injury to a Third Party, or damage to a Third Party property, then such person might be liable to pay compensation to the Third Party. Such liability arises under the common law of Torts.
- The Arbitration and Conciliation Act, 1996 is also relevant to Insurance contracts. Most of the Insurance contracts contain a clause on arbitration. Arbitration is a dispute resolution process that is considerably less time consuming and less cumbersome as compared to filing a case before the Court of Law.

Most of the Insurance Contracts provide that a dispute could be referred to Arbitration only when liability for the claim is admitted. Dispute on admission of liability under the Policy may not be subject to Arbitration.

Under Arbitration, one of the parties, usually the Insured customer, invokes the clause and seeks the dispute to be resolved by Arbitration. She appoints one Arbitrator. If the Insurer agrees, then the Arbitrator appointed by the Insured customer becomes the sole Arbitrator. If the Insurer disagrees, he appoints one Arbitrator, and the Arbitrators appointed by the Insured and the Insurer together appoint another Arbitrator, thus taking the number of Arbitrators to three. This is an Arbitral Tribunal. This Tribunal examines the dispute and passes an award. The award is generally binding on both the parties- Insured and the Insurer.

Test Yourself 3

Which of the following Acts does not deal with Liability?

- A. Carriage by Road Act, 2007
 - B. Companies Act, 2013
 - C. Mental Healthcare Act, 2017
 - D. Employees Compensation Act, 1923
-

Burden of Proof

Insurance is purchased for mitigating losses. Now, whose duty is it to prove that there has been a loss?

Generally, it is the Insured customer who has to prove that there is a loss caused to the property or interest insured under the Policy. If the Policy covers named Perils, the Insured should prove that the loss was caused by a specific Peril. He need not prove what caused the Insured Peril to cause the loss; in other words, the customer is not expected to prove the cause of cause.

If the Policy covers All Risks, or all Perils other than those excluded, it is the duty of the customer to prove that the property has suffered an accidental loss. He need not prove which particular Peril caused the loss, as long as he proves that the loss is accidental.

If the Insured customer has proved that the loss is due to the operation of an Insured Peril (in named Peril Policies) or that the loss is accidental (in All Risks Policies), and if the Insurer disagrees, then it is his duty to prove that the loss has occurred due to the operation of an excluded Peril.

Interpretation of Contracts

Any written contract could have certain phrases or words which could mean different things to different parties. Most of the cases in Courts are litigations around what meaning is to be attached to a particular phrase. For instance, in the case relating to the attack on World Trade Centre, the meaning for the phrase “per occurrence” was the subject matter of a serious dispute.

Generally, contracts should be written in a simple language which could be understood by the parties to the contract. But as Lord Denning said, “The English language is not an instrument of mathematical precision.” Therefore, disputes do arise in insurance Contracts on what is the intent of a particular phrase. There are many such disputes, and rules have also evolved on how to interpret contracts in case there is an ambiguity in a particular clause.

1. The true intent of the parties to the contract should be determined. No strained construction to words or phrases should be given that could undermine the true purpose of the contract of insurance.
2. In case there is an ambiguity in a phrase or clause of the contract, and such ambiguity could lead to two possible interpretations, that interpretation which favours the party who did not draft the contract

should be preferred. This is known as the Rule of Contra Proferentem. In Insurance, generally the contract terms are drafted by the Insurer. Should any ambiguity arise on a particular phrase, such ambiguity would generally be resolved in favour of the Insured customer.

3. The reasonable expectations of the customer in respect of the insurance contract should be honoured. The Insurance contract should not be so worded as to negate such reasonable expectations that form the purpose of an insurance contract.

Test Yourself 4

Which of the following is not true with regard to Burden of Proof?

- A In an All Risks Policy, the Insured need only prove that the loss is accidental, and need not prove that the loss was caused by a particular Peril.
- B In named Peril Policy, the Insured need not prove which Peril caused the loss
- C The customer is not expected to prove what caused the particular Peril to operate
- D If the Insurer disagrees with the Insured on the cause of loss, the Burden of Proof shifts to the Insurer.

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is C. Competence is not one of the elements of a Contract

Answer to Test Yourself 2

Correct Answer is A. Common Law is applicable not only to India, but to many countries in the world.

Answer to Test Yourself 3

Correct Answer is C.

Answer to Test Yourself 4

Correct Answer is B. In a Named Peril Policy, the customer has to prove that the loss was caused by one of the named Perils.

Summary:

Insurance is a contract between two parties- the Insurer and the Customer. Like any other contract, the Insurance contract too should possess all the elements of a contract, that make it enforceable at law. In addition, there are certain principles that are unique to Insurance Contracts. These are developed through Common Law.

The activities of the insurance industry in India is monitored, regulated and developed by the Insurance Regulatory and Development Authority of India, which is empowered under the Insurance Act to discharge most of the regulatory and development functions relating to insurance operations.

While the Insurance Act and the Insurance Regulatory Act provide the legal framework for insurance operations, there are several other statutes that are relevant to insurance.

Particularly there are legislations providing for liability of the negligent parties to the victims. Motor Vehicles Act governs liability to motor vehicle victims. Employee Compensation Act governs liability to employees for accidents arising out of and during the course of employment. Public Liability and Product Liability are governed by law of torts.

The law on interpretation of contracts and on burden of proof of loss is well evolved. These legal principles provide clarity and thus facilitate effective customer service.

Self-examination questions

Question 1

Which of the following is a Contract?

- A. Ram agrees with Shyam to kill Vishal for which Shyam agrees to pay Ram Rs. 10 Lakhs.
- B. Renjit agrees to accompany Roshan for the weekend picnic.
- C. Sudhir agrees to indemnify the loss in transit of smuggled goods of Shankar worth Rs. 10 Crores.
- D. Rekha agrees to sell her house to Reshma for a consideration of Rs. 2 Crores.

Question 2

Which line of insurance business is governed by a specific Act?

- A. Fire
- B. Marine
- C. Health
- D. Product Liability

Question 3

Which of the following Acts deals with Directors' Liability?

- A. Motor Vehicles Act
- B. Companies Act
- C. Employee Compensation Act
- D. Mental Healthcare Act

Question 4

Which of the following statements is incorrect?

- A. In Insurance Contracts, it is usually the customer who invokes the Arbitration Clause.
- B. If the Insurer agrees, a sole Arbitrator could resolve the dispute
- C. The Award of the Arbitral Tribunal is binding on the Insurer, but not on the Insured.
- D. Generally, disputes on rejection of a claim by the Insurer cannot be taken up for Arbitration.

Question 5

What does Contra Proferentem mean?

- A. Contracts should always be interpreted in favour of the Insurer.
- B. Contracts should always be interpreted in favour of the Insured.
- C. In case of ambiguity in the contract, an interpretation that favours the party who did not draft the contract is preferred
- D. The reasonable expectation of the customer is respected.

Answers to self-examination questions:

Answer to Question 1:

The correct option is D.

All other options are not legally enforceable.

Answer to Question 2:

The correct option is B

Marine Insurance is governed by the Marine Insurance Act, 1963.

Answer to Question 3:

The correct option is B

Answer to Question 4:

The correct option is C.

The Award of the Arbitral Tribunal is binding on both the Insurer and the Insured.

Answer to Question 5:

The correct option is C



CHAPTER 8

UNDERWRITING

Chapter Introduction

In this Chapter, we will understand the significance of Underwriting. We will study the different stages in the process of Underwriting. We will learn what are the dangers the Underwriter faces and how to avoid them. We will also study what the Underwriting framework is.

■ Learning Outcomes

- a. Understand the significance of Underwriting
- b. Learn the different stages of the Underwriting Process
- c. Understand the challenges in Underwriting
- d. Understand the Underwriting Framework



1. Understand the significance of Underwriting

Learning Outcome (a)

THE IMPORTANCE OF UNDERWRITING

The basic business model of an insurance company is to pool a large number of exposures with common risk characteristics and to realise a profit from such enterprise.

People own assets. These assets are exposed to the risk of loss by fire, flood, earthquake and many such other Perils. The asset owners would like to be relieved of the burden of carrying this exposure to various risks. Insurers are willing to take the burden of exposure to these risks to their account, for a premium.

- Thus there are people want to shift their risks.
- There are Insurers who are willing to take these risks.
- The two meet in the Insurance market.
- The risk of the owners of assets is transferred to the Insurers.
- Insurers charge premium for this transfer.
- The transfer happens between the customer and the Insurer, either directly or through intermediaries.

In the Insurance market, customers try to find the ideal price and the ideal terms for the risk transfer. They could approach many Insurers to seek price and terms. Insurers thus get requests from many customers who want their risks to be transferred to them. But the Insurer does not accept each and every risk that is offered for insurance. They evaluate the risks. They find out whether these risks conform to the characteristics of an insurable risk. They also ascertain the loss probabilities for the risks. After this evaluation, the Insurer select only those risks that meet certain preferred risk characteristics. The process of evaluating, selecting and assuming risks is called Underwriting.

Underwriting, thus, is the most critical function in insurance operations because, a risk, when underwritten, represents a potential liability. If adequate care is not exercised in selecting the risks, the Insurer could be assuming much more liability than they could have anticipated. Such shocks from losses exceeding predictions could undermine the very existence of the insurance company.

Test Yourself 1

Proper Underwriting enables

- A. Higher market share
 - B. Better prediction of expected losses
 - C. Higher losses to the Company
 - D. Higher claims to the customers
-

2. Learn the different stages of the Underwriting Process

Learning Outcome (b)

THE UNDERWRITING PROCESS

Underwriting is performed in three phases- Evaluation, Selection and Assumption of risks.

1. Evaluation

The task that the Insurer should undertake before deciding on whether to accept a risk or to decline a risk, is to first evaluate the risk. Only an evaluation of the risk would guide the Insurer in deciding whether the risk is good and could be accepted; or not good and hence to be declined.

Evaluation begins with collection of information on the risk and its features. Unless information is available on the risk, the Insurer would not be able to evaluate the risk. The information collected would help the Insurer understand the nature of risk, the context of its exposure, the Perils to be covered, and the hazards to which the risk is exposed. These facts together would enable the Insurer ascertain the likelihood of a loss, and to estimate the severity of a loss, should it happen.

The extent of information required depends on the nature of the risk being offered for insurance.

For smaller risks, minimum information is sufficient, whereas for larger risks, detailed information is necessary. Small and big risks here do not refer to the size of the risk. Small risk means the value at risk is relatively small; large risks would mean the value at risk is considerably high.

For smaller risks, the Proposal Form is sufficient to seek the relevant information. The Proposal Form should be so designed as to elicit the minimum necessary information without too much trouble to the customer. If the customer is asked to fill in too many details, he might shift to a less demanding, more user friendly insurer. The Insurer should ask only a few relevant questions. These answers, when supported by the Insurer's secondary research on the risk features, would enable the Insurer to evaluate the risk. For instance, if the risk is in a particular area, the Insurer could know the presence of water bodies, the distance from the Fire Station, the seismic zone of the area, and the presence of other major risks in that area. The Insurer should therefore confine his questions to the barest minimum and supplement the information with their research and knowledge.

For high value risks, a more deliberated approach would be required. In such risks, apart from information furnished by the Intermediary or the Insured, the Insurer could require more specific information on the risk. A Risk Inspection

could be carried out to ascertain various features of the risk. This is an important exercise in high value risks, as the nature and extent of cover granted would depend on various risk features which are compiled and evaluated.

In large risks, reinsurance support could also be required. The Reinsurer could need more granular details, as the risks that require reinsurance support could generally be for high values. Such information should be provided to the Reinsurer. Sometimes, the Insurer is urged to decide on a risk without adequate information. In such cases, the Insurer should exercise care and either avoid writing risks without adequate knowledge of their features or limit their exposure to lower values.

2. Selection

Life is a series of choices we make. The Underwriter makes many a choice every day. To write, or not to write a risk presented is the question the Underwriter needs to ask all through his working day. He must also answer these questions, day in and day out. The Underwriter thus selects risks from those that are offered for insurance.

Any Selection, by definition, includes rejection. The Insurer should make Selection of risks from the multitudes offered. This Selection should be made expeditiously. The Underwriter might not have the luxury of time to research on the risk features. The expected response time to the market queries should be honoured. Most of the times, the selection process is automated with carefully constructed algorithms that are embedded in the Information Technology systems. These algorithms check whether a given risk conforms to the underwriting standards of the company, and also indicate the appropriate rates. Since a majority of the risks written by an Insurer would fall under low value risks, faster response is enabled through automation.

The process of designing the algorithm to facilitate automation is by itself an intricate task. Algorithm design should digitally construct the Underwriting framework, layer by layer. Hazards relevant to each risk should have been identified and appropriate response for each such hazard should have been laid down. For instance, would the Underwriter write a cash in transit risk where no armed guard accompanies the transit, upto what limit should such risks be written, what rates to be charged, and a myriad of such scenarios should have been envisaged and the response should be embedded in the algorithm.

2.1 Two Rules for Risk Selection

There are a few principles that govern risk selection. We will study two of them:

- 2.1.1 The Insurer works on the Law of Large Numbers. Unless a large volume of risks is underwritten, the predictions of the Insurer could go wrong. Thus the Insurer has a compulsion to write a large volume

of homogeneous risks. While so driven by the need to write more and more of the same type of risks, the smart Underwriter should also identify some risks which have higher loss probabilities. The Underwriter should identify such undesirable risks based on the location, the channel, the profession, the age group, the process carried out or the moral hazard. The Underwriter should be familiar with such minefields and avoid them. Thus, the First rule for the Insurer is to write a large volume of risks, and to identify and avoid bad risks which have higher loss probabilities.

- 2.1.2 Second is the need to generate profit. Profit depends mostly on the rate charged for the risks accepted. If the Insurer is not charging a price that is adequate to cover the Burning Cost and other expenses, they could incur significant losses. At the same time, the Underwriter should respond to market forces. In a highly competitive environment, the market expects the Insurer to match competitors' rates, which could be unviable. While the Underwriter should be wary of playing to the market by writing business at unviable rates, they must moderate their approach where possible.

Thus in selecting a risk, the Insurer should practice these two Rules:

- Write a large volume of business, and avoid bad business
- Respond to market forces, where possible, without compromising profitability

3. ACCEPTANCE OF THE RISK

Assuming a risk is the final, irrevocable decision of the Insurer that binds the Company to a risk. Once a risk is accepted, it is difficult to reverse this decision. Especially in large risks, the assumption of the risk signifies a potential liability the Company undertakes.

The nature of the risk and the terms of the cover should be fully understood by the Insurer before accepting to cover such large risks. The terms of acceptance of the risk should be properly documented. In large risks, there are multiple iterations occurring over a long period of time, which culminates in the coverage getting finalised and risk being assumed. The final decision of the contracting parties on the terms of the cover should be properly documented. This would entail that the Sum Insured, the terms of cover, the Deductibles, the Limits, the Warranties and Conditions are clearly and precisely expressed in the insurance contract. Else, the Insurer could be made to pay more than what they thought they had covered.

The acceptance protocol should be clearly and precisely laid down. The Underwriting Framework should clearly spell out who could accept what risks for what amount.

Underwriting is not just a binary activity. The Underwriter's role is not just to say "Yes" and "No", in accepting or rejecting a risk. There are various other options too.

- Channels which usually support the Insurer with profitable business might be occasionally supported even at unviable rates.
- If the competitors are very aggressive, the Underwriter could take a strategic retreat at times.
- Some risks could be accepted with higher deductibles and lower limits.
- If the Insurer is new to a particular line of business, they could cede more to the Reinsurer.

The response of the Underwriter is thus calibrated by multiple options. Underwriting is, thus, as much an art as it is a science.

3.1 SPECIAL FEATURES OF LIFE INSURANCE UNDERWRITING

The principles enumerated thus far on Risk Evaluation, Risk Selection and Risk Acceptance apply as much to Life Insurance as they apply to Nonlife Insurance. However, there are certain features specific to Life Insurance which merit mention.

3.1.1 Implications of Section 45 of the Insurance Act, 1938

The parties to an Insurance Contract are generally free to decide the terms of the contract. Neither the law nor the Regulator mandate what should be the terms of coverage of an insurance contract. However, Section 45 of the Insurance Act, 1938 restricts the authority of the Insurer to declare a Policy void. Under Section 45, the Insurer, even in the case of a misrepresentation or fraud by the Insured, cannot question the Policy after three years from the commencement of insurance.

In view of this provision, a Life Insurer must ensure that the Underwriting functions are performed with utmost care so as to minimize acceptances of undesirable risks. If bad risks are accepted based on the Declarations and representations in the Proposal, the Insurer cannot resort to cancellation of the Policy after three years of coverage. Therefore, utmost care should be exercised before granting cover under Life Insurance. The Underwriting functions are to be geared to ensure diligence in acceptances. The Proposal, the Risk Evaluation, the algorithms, the rule engines and all other processes should be designed to ensure that fraudulent or undesirable risks are not accepted.

3.1.2 Underwriting Rigour

The following precautions should be undertaken while underwriting a Proposal:

- Proposals should be screened and scrutinized based on the answers in the Proposal. If answers are not provided, the Underwriter should seek them. If the customer does not answer a question, and the Insurer does not seek answer thereto, it would be considered that the Insurer had waived the question. Later, the Insurer cannot rely on the failure to answer a question to treat it as nondisclosure.
- The quality of the business procured from various channels and organs of the Company should be monitored for moral hazard. Adverse selection, in terms of people with morbid conditions, or other vulnerabilities should be avoided.
- Medical Examination of the prospective customers should be carried out, especially in proposals for high Sum Insured.
- The Proposals should be examined in terms of the financial viability of the Prospects, and measured on income, age, ability to pay premium and such other factors. Relevant documents such as Income Tax Returns, Accounts of the entity owned by the Proposer, and other financial statements should be procured to collaborate the income stated in the Proposal.
- The Underwriting framework should be robust and should be aligned with the Technology systems of the Company.
- Risk Classification should be equitable, in the sense that proposers who are exposed to similar degree of risk are placed in the same premium class.
- The framework also should contain elaborate operating procedures to deal with different types of proposals such as Standard Lives, Preferred Lives, Substandard Lives.
- The framework should also specify objective criteria for identifying Declined Lives. Declined Lives should not be insured at all.

Test Yourself 2

Question-2

When the Underwriter drafts the terms for the Policy for a risk underwritten, which function does he perform?

- A. Evaluation
 - B. Selection
 - C. Acceptance
 - D. Loss Control
-

3. Understand the challenges in Underwriting

Learning Outcome (c)

3.1 UNDERWRITING LANDMINES

While accepting the risks, the Insurer should be careful to avoid certain pitfalls that could land them in trouble. These are discussed.

3.1.1 Adverse Selection

Just as the Underwriter chooses the risk, the risk chooses the Underwriter. If a risk is not properly classified and rated at a price that is commensurate with the loss probabilities, it could be underpriced. When a risk is underpriced, it means it is bad business. But since it is underpriced, you get more and more of such bad price. Insurance is a pooled mechanism. If bad risks throng to an Insurer, the resultant adverse loss experience would increase the premium for good risks too. Eventually, good risks would be driven away from the Company by bad risks. And more and more bad business would pour in. This would result in adverse selection.

Adverse Selection occurs when the applicants for insurance present a higher than average probability of loss than is expected from a truly random sample of all applicants.

The Underwriter should therefore ensure that the risk classification, selection and rating do not end up in adverse selection. More importantly, the Underwriter should monitor the cumulative effect of risk acceptances across many organs of the enterprise, as measured in loss ratio and other performance parameters. If adverse selection is noticed, corrective action should be quickly initiated.

3.1.2 Convergence

While every Insurer would like to write more and more of the same type of risk, concentration of business in one line, one region, one channel, one group of clients could seriously impair the Company's performance, in case the business becomes unviable for any internal or external reason. A balanced book, is one with diversified business from

- various geographies
- various clients
- various channels
- various products.

Such diversified business would insulate the Insurer from the vicissitudes of business cycles, trends, and upheavals.

3.1.3 Accumulation

Insurers strive to write a large volume of risks. When they write such a large number of risks, there is one danger they encounter- Accumulation. Accumulation happens when many risks are written in the same geography, or when risks are interdependent. If many risks are written in the same geography, it is possible that one single event could cause multiple losses. For example, a storm or cyclone in a major city could result in hundreds of losses to insured vehicles. Though the loss to each vehicle would be small, the cumulative loss- the aggregate of hundreds of such small losses, could be more than the Insurer could bear. Such events, either through natural causes such as flood, cyclone, earthquake; or manmade losses such as terrorism, are called catastrophes. A catastrophe could cause multiple number of losses to insured risks in a particular location. The aggregation of such risks in one particular location is called Accumulation. It could arise in many ways:

- Many insured risks such as Buildings, Warehouses, Vehicles and other property in one city could be affected by major events like flood and cyclone.
- Different risks of different parties in one location such as a mall, or commercial complex could present Accumulation of risks, like jewellery shops in the same complex.
- Different types of cargo arriving at the same port of discharge could also present accumulation.
- Different types of cover like Material Damage, Business Interruption and Liability could get triggered by the same event resulting in multiple losses.
- In cyber liability risks, even risks which are not physically located close to each other, could result in multiple losses because of cyber attacks happening in multiple systems across the world.

The Insurer should therefore keep track of accumulations. If these accumulations present a loss scenario which exceeds the Insurer's capacity, the Insurer should have adequate reinsurance in place. Thus, keeping track of the accumulations is essential while accepting a risk, so that the Insurer either limit their acceptances to their limited capacity or seek reinsurance.

3.1.4 Complex Risks

Complex risks should be written only after thorough scrutiny and evaluation of the proposal. The Underwriter should fully understand the complexities involved and should have simulations of probable maximum loss scenario to correctly estimate the impact of a large loss. Reinsurance protection should be adequately secured prior to commencement of the risk. The terms of cover provided by the direct Insurer should be harmonised with the terms of cover secured from the Reinsurer, and direct cover should not extend to exposures or contingencies not covered by the Reinsurer.

3.1.5 Underpricing

Insurance is a highly competitive business. There are many players. Yet, there is little to differentiate one Insurer from the other since the insurance business is getting more and more commoditised. The Customer could base their selection of Insurer purely on the price charged by each Insurer. The Customer might not realise the superior features of one Insurer over the other.

In such a competitive environment, Insurers are tempted to underprice their cover with a view to retain their market share. Such underpricing, if resorted to recklessly, could result in huge losses for the Insurer. The Insurer should strive to realise the right price for the cover offered.

The smart Underwriter would steer clear of these landmines.

Test Yourself 3

Which of the following could lead to adverse selection?

- A. Young students enrolling in a Students Accident Policy
 - B. Taxis getting insured with private cars at the same rates
 - C. Older employees getting covered under an Employee Health insurance
 - D. Houses in coastal areas getting insured
-

4. Understand the Underwriting Framework

Learning Outcome (d)

Underwriting Framework

Underwriting Framework is the architecture for the Underwriting operations of the Company. When hundreds of thousands of risks must be evaluated, selected and assumed, the Insurer should have in place a sound framework that enables them to make sound decisions fast.

The Underwriting Framework includes Hazard Study, Risk Classification, Risk Evaluation, Risk Inspection, Rating, Rating Tables, Underwriting Guides and Manuals.

4.1 Risk Classification and Rating

Earlier, we had studied the relationship between Risk, Peril and Hazard:

- Exposure to the Possibility of a Loss is the Risk
- Cause of Loss is the Peril
- Condition increasing the Probability of a Loss or Aggravating a Loss is the Hazard

Underwriting entails grouping risks based on certain characteristics, hazards. Thus, for covering Fire Peril, a hotel has a higher probability of loss compared to a residence; and a manufacturing plant has a higher probability of loss as compared to a hotel. Thus hazards relevant to the Peril are identified, and the risks are classified. These classifications and their relevant rates are embedded in the Underwriting and Technology Framework.

Underwriting is facilitated by a system of classification of risks. The Underwriter need not evaluate each minor risk and ascertain its loss probability. The system of Underwriting is based on a framework of analysing Risks:

- in relation to the Perils that are to be covered , and
- in relation to the hazards they are exposed to.

Based on these three parameters, the Risk, the Peril and the Hazards, the Underwriting Framework is built. Underwriting is basically concerned with the Peril being covered. Then comes the Risk that needs to be covered. The hazards relevant to the Risk being covered and the Peril being covered are identified and rated. A good risk for covering Fire could be a bad risk for covering Flood, and vice versa. Each Peril has its own hazards. For instance, a shop in a high rise mall could be a fire hazard, whereas it would have a low loss probability for flood. Thus, for each risk, the hazards are studied in relation to the Peril covered.

This work of studying Risk, Peril and classifying them according to the degree of hazard is essentially an actuarial function. But Underwriters have to closely work with the actuarial team in identifying the hazards and in their classification so as to make it market friendly. Actuarial and Underwriting functions should work closely in making an effective, fair and easy to use risk classification system.

Thus designed, the Underwriting Framework enables faster decisions on accepting a risk and on rating them. The foundation of the Underwriting Framework is based on the Insurer's risk appetite, capital availability, past loss experience and market considerations.

4.2 Acceptance Limits

Underwriting framework should also include stipulating acceptance limits for each operating unit. Acceptance Limit means the amount upto which a risk could be accepted. This is dependent upon the capacity of the Insurance Company. We will study more about what capacity is in the Chapter on Reinsurance. Briefly, it means the ability of the Insurer to underwrite a risk upto a certain value, based on committed Reinsurance support. Depending upon the nature of risk covered, the capital available with the Insurer, and a host of other factors, capacity is determined. Not all risks which are upto the capacity limit are written at all operating units. Based on the underwriting skill available at various tiers of operation, Acceptance Limits are laid down.

4.3 Underwriting Guides

These are used by the frontline marketing force such as Agents and other Sales persons. The Guide enables the field force to understand the information requirements for each type of risk, the risks that are declined, the risks that come under standard underwriting guidelines, and the exceptions which would require a different approach. The Guide also explains the information requirements. The Guide illustrates how each risk is rated. These Guides are now embedded in mobile applications. Such apps facilitate the field force to quickly quote the premium for the risks to be covered. These apps also facilitate the field force to write simple risks and renewals online.

4.4 Underwriting Manuals

Underwriting Manuals are designed to assist the Underwriters at various levels of the Company and also other channel partners who are authorised to write business on behalf of the Insurance Company. These Manuals should be simple.

- They should illustrate the information needed on the risk, and the Underwriting process.
- They should clearly define the respective powers for accepting a risk at each layer of the organisation.

- Different scenarios are addressed and the solutions documented in the Manual in terms of Standard Operating Procedures for selection and acceptance of risks.

Such clear documentation in the Manual with clarity in the roles and responsibilities of the power hierarchy is an important part of the Underwriting Framework.

4.5 Updating Underwriting

The Underwriting Framework should be dynamic. It should be constantly updated as to respond to the changes in the environment. Changes keep occurring in the internal and external environments. New developments, changes in technology, changes in the judicial approach on liability cases, new legislations, Tax Laws, Regulatory Changes, and such other developments could have far reaching implications for the Insurance Company.

The smart Underwriter should closely watch the undercurrents, glean the changes and sense the effects. In some cases, preventive action by not accepting certain risks could be initiated. In some other cases, changes in product design could be warranted. The Underwriter should be able to immediately identify circumstances that require changes to Underwriting approach and effect such changes quickly.

4.6 Underwriting Audit

The Underwriting Framework also includes an Audit mechanism to check whether the Underwriting functions at the operating levels are as per the respective authorities provided to them. The efficacy of the Underwriting System should be periodically evaluated. Efficacy of Underwriting depends on how closely the accepted pool of risks matches the expected pool of risks. This is best measured by the loss ratios for the pool. They should be closely monitored. It is likely that some affinity partners and supportive business channels are provided special powers to write business on behalf of the Insurer. Such authorisations should be carefully monitored to see that the liberty to write business is not used irresponsibly by the concerned partner.

REGULATORY COMPLIANCE

Regulators across the world are very keen to protect the interests of Policyholders. This concern is articulated by various Regulations on almost every conceivable activity of insurance, on every player in the system. On underwriting, the following Regulations are important:

- Board Approved Underwriting Policy (underwriting philosophy of the company; delegation of authority at various levels)
- File and Use and Use and File
- Reinsurance Regulations
- Protection of Policyholders Regulations

The Products should adhere to various stipulations in these Regulations. The Prospectus should clearly state the scope of benefits, the extent of cover, and the exclusions. The Policy also should spell out the terms of cover, and the conditions for renewal. The File and Use Regulations lay down the Guiding Principles for product design. The Products should:

- Be fair and non-discriminatory;
- Adhere to basic insurance principles;
- Be a genuine insurance product;
- Address reasonable expectations of the customer;
- Be based on sound and prudent underwriting and actuarial basis.

Policyholders' Protection Regulation deals with many clauses on Underwriting. The Insurance Company should ensure that these are adhered to. Regulations also stipulate when a Policy could be cancelled and when a Renewal could be refused. These should be complied with. Reinsurance Regulations also stipulate how reinsurance requirements should be procured and secured.

Test Yourself 4

Which of the following is Acceptance Limit based on?

- A. Market Share
 - B. Competition
 - C. Rating and Pricing
 - D. Capital and Reinsurance
-

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is B.

A proper Underwriting would mean that the pool of the risks underwritten would be very similar to the pool of risks the Actuary had based her workings on. Proper Underwriting thus enables better loss prediction.

Answer to Test Yourself 2

Correct Answer is C.

Drafting the terms of cover is part of the Acceptance process.

Answer to Test Yourself 3

Correct Answer is B.

If Taxis which have a higher exposure than private cars are classified with Private Cars, it would lead to Adverse Selection

Answer to Test Yourself 4

Correct Answer is D.

Acceptance Limit is based on Capital and Reinsurance support available.

Summary:

Underwriting is a very crucial activity of the Insurance Company. Underwriting results in a commitment to the customer. These commitments, if not properly made, would result in many undesirable consequences. The Underwriting Process and the Underwriting Framework should be centred around the concern to generate a good volume of the right kind of risks at the right price.

Self-examination questions

Question 1

In evaluating a risk, which of the following aspects is not relevant?

- A. The market share of the Customer
- B. The Sum Insured
- C. The location of the risk
- D. Past loss experience

Question 2

Why should an Insurer write a large volume of risks?

- A. To increase market share
- B. To improve their share price
- C. To have a better prediction of loss events
- D. To pay better remuneration to their employees

Question 3

What is commoditisation?

- A. Lack of distinction between different competing products
- B. Production in bulk
- C. Pricing very competitively even by incurring losses
- D. Pricing very high by creating a brand value

Question 4

Which of the following is accumulation?

- A. Writing a small volume of business in each line.
- B. Writing a small volume of business in each territory.
- C. Writing a large volume of business from one channel.
- D. Writing a large volume of business from one city.

Question 5

Why is Underwriting Audit necessary?

- A. To monitor the performance of Underwriting
- B. To cancel policies wrongly underwritten
- C. To enable better Reinsurance protection
- D. To enable better loss prediction

Answers to self-examination questions:

Answer to Question 1:

The correct option is A.

In evaluating an individual risk, Market Share is not relevant.

Answer to Question 2:

The correct option is C.

The Law of Large Numbers says that as the number of trials go up, the difference between actual outcome and expected outcome come down. Hence, writing a large number of risks, gives more predictable outcomes

Answer to Question 3:

The correct option is A

Because Commoditisation treats every product as a commodity, and obscures distinctive feature of each product.

Answer to Question 4:

The correct option is D.

Answer to Question 5:

The correct option is A



CHAPTER 9

CLAIMS

Chapter Introduction

In this Chapter, we will elaborately discuss the various stages of the claim process. We will understand how the quantum of claims payable is determined in different scenarios.

■ Learning Outcomes

- a. Understand the importance of Claims Settlement
- b. Learn the different stages of the Claims Process
- c. Understand how Quantum of Claims payable is determined
- d. Understand the importance of Reserving



1. Understand the importance of Claims Settlement

Learning Outcome (a)

CLAIMS

The purpose of insurance is to provide compensation for a covered loss if and when it happens. Even if a loss is compensated by the Insurer, no reasonable person would wish for a loss to happen. Just because the Insurance Company would pay the Hospital Bill, no person would wish to be hospitalised. Just because the Insurance Company would pay the cost of the insured car, no person would like her car to be stolen. But because of her bad fortune, if a loss were indeed to happen, at least the Insured customer could console herself that she was wise enough to have her risk covered under an insurance Policy. Thus, in moments of distress, the Insured customer looks to the Insurer to rescue her from the financial consequences of the loss she has suffered. This is the moment of reckoning for an Insurer, and they should establish their credibility by honouring the commitments they made in the insurance contract.

Claims thus redeem the Insurer's position as one who keep their promises. A claim occurs when an Insured Event occurs. The Insured Event is usually unforeseen and unexpected. It invariably results in a loss to the Insured, except in the case of maturity of the Life Insurance Policy. In Life Insurance, even the maturity of the Policy would be an Insured Event, as on maturity, the Insurer agrees to pay the Sum Assured.

Apart from such committed payments like those due on maturity and on prescribed intervals like annuity payments, all Insured Events result in a loss to the Insured. The operation of an Insured Peril is the Insured Event. The Insured Event results in a financial loss to the Insured. The Insured Event thus results in a claim. Any of the following could be an Insured Event:

- Death of the Life Assured
- Fire in a warehouse
- Damage to a Building by Earthquake
- Collision of two ships
- Damage to Insured Cargo in Transit
- Damage to Insured Motor Cycle
- Burglary at the Insured shop
- Dacoity while the Insured Money is in Transit
- The Court awarding compensation for a victim for a defect in the Product insured under a Product Liability Policy
- Hacker attack on a system insured under a Cyber Liability Policy

There could be as many different types of losses, as there are different types of insurance products. But all these losses have one common factor- an Insured Peril



has operated and has resulted in a financial loss to the Insured. When such a loss occurs, the Insurance Customer lodges a claim with her Insurer. The Insurer then examines whether a loss has occurred, whether it was caused by an Insured Peril and whether the claim is payable, and to what extent.

Indemnity usually pays the Insured what she lost. Nothing less, nothing more. Insurers ensure that nobody is paid more than what they lost. But in many cases, the customers are paid less than what they lost. There could be so many reasons like depreciation, deductibles, underinsurance and other such deductions. Yet, the Insurance Company generally pays what it agreed to pay. This is the hallmark of insurance, and should the Insurer fail to honour their claims, the credibility of the system would suffer. Thus Claims define the role and redeem the purpose of insurance.

Test Yourself 1

Which of the following events is not an Insured Event

- A. Earthquake
- B. Cyberattack
- C. Change in fashion
- D. Dishonesty of the employee

2. Learn the different stages of the Claims Process

Learning Outcome (b)

Claims Process begins with the occurrence of the Insured Event. The Insured usually intimates the event to the Insurer, and the Claims Process is set in motion.

The process of claims settlement is briefly outlined in the following diagram:

1. INTIMATION

Most Insurance Policies have a Condition that the Insured customer should immediately inform the Insurer of any loss. Immediate intimation to the Insurer is necessary for the following reasons:

- The evidence on the nature of loss and extent of loss is available immediately after a loss. Passage of time between the loss occurrence and the loss intimation could mean that the circumstances that existed at the time of loss might have changed at the time of inspection of the loss site. A flood or a fire loss is better inspected immediately after the loss. This would provide the Insurer the opportunity to properly judge the cause, nature and extent of loss.
- Insurers and the experts engaged by them could provide valuable advice on loss minimisation. Their loss analysis could also provide guidance on future safety measures. Both these activities could be better effected if they are undertaken immediately after the loss.
- Salvage realisation could be more effective if the Insurers are immediately involved in the exercise.
- As soon as a loss is reported, the Insurer creates a Reserve for their liability towards the loss. A timely intimation would improve the Insurer's Reserve updating.

The Policy condition provides that the loss should be immediately intimated. However, there could be situations where the Insured makes a delayed intimation of the loss. In such cases, Insurers should not blindly invoke this Policy Condition to deny claims if there is a delay between occurrence and intimation. There could be some circumstances which were beyond the control of the Insured which resulted in the delay in intimation. In such cases, the delay should be condoned.

2. SURVEYOR APPOINTMENT

Surveyors are also called Loss Assessors. These are professionals who are experts in ascertaining the cause and nature of loss and in assessing the quantum of loss. These professionals are licensed by IRDAI. According to Section 64UM of the Insurance Act, no claim in respect of a loss which has occurred in India shall be

admitted for payment or settled by the insurer unless the Insurer has obtained a report on the loss that has occurred, from a Surveyor licensed by IRDAI.

The IRDAI has also exempted certain types of losses from this requirement to have the loss assessed by a licensed Surveyor. Certain losses like Motor Third Party Liability, General Average, Short landing and Non-delivery claims in Marine Cargo, and claims in product lines such as Liability, Health, Crop, Burglary and Money in Transit and Credit insurance are exempted from the need for Survey by a Licensed Surveyor.

In respect of other lines of business, all losses exceeding ₹100000 should be assessed by a Licensed Surveyor. In Motor, however, all losses exceeding ₹50,000 should be assessed by a Licensed Surveyor.

Thus in a majority of the claims, the Licensed Surveyor is the person who assesses the quantum of loss. As soon as an intimation of a loss is received, the Insurer appoints a Surveyor to assess the loss. The Insurer should appoint the Surveyor within 72 hours of the loss intimation.

3. LOSS ASSESSMENT

Surveyors are professionals licensed by IRDAI to make loss assessments. Their role and responsibilities are defined in IRDAI Surveyors Regulations, 2015. Their duties include:

- (i) examining, inquiring, investigating, verifying and checking upon the causes and the circumstances of the loss
- (ii) assessing the extent of loss, nature of ownership and insurable interest
- (iii) commenting on the admissibility of the loss under the policy
- (iv) giving reasons for repudiation of claim, in case the claim is not covered by policy terms and conditions

As soon as the Insurer appoints a Surveyor to assess the loss, the Surveyor proceeds to the spot of the loss. He inspects all manual and electronic records available at the site. He examines the property and analyses the circumstances surrounding the loss. He seeks information on various aspects of the Insurance customer's operations. Within 30 days of the receipt of the necessary information from the customer, the Surveyor should submit his Loss Assessment Report to the Insurer.

4. INSURER'S DECISION

Though it is mandatory that a Surveyor should assess the loss, it is the Insurer who decides whether a claim is payable or not. The Insurer also decides the amount of claim payable. Though the Surveyor might have quantified the amount of claim payable, the Insurer is not bound by such an assessment. The Insurer could settle the claim for an amount higher or lower than the amount

assessed by the Surveyor. However, such deviations from the assessment by the licensed Surveyor are made only with reason, and not arbitrarily.

4.1 ADMISSIBILITY

The Insurer has to satisfy themselves that the claim is payable, by ascertaining the following points:

A. Coverage

Primarily, the loss should be one that is covered under the Policy. To see whether the loss is covered, the following points need to be ascertained:

A.1 Date of Loss

The date of loss should have occurred during the period of insurance. Usually this could be easily ascertained. The period of insurance is stated in the Schedule to the Policy, and the date of loss is known, and therefore the Insurer can verify whether the date of loss falls within the period of insurance. But occasionally, complexities do arise.

- In Marine Transit Policies, the exact date of loss might not be known. The cargo is transported through multiple modes and involves lot of handling. In such cases, the date of loss such as damage or leakage could not be exactly ascertained. Not knowing the exact date of loss could become critical in cases where only one portion of the voyage is insured, and the other portions are uninsured or insured with another Insurer. It is thus advisable to insure the entire voyage; or if only one portion is to be insured, the Insurer should confirm that the goods are free from any defect at the time of risk commencement.
- In Liability Policies, the nature of coverage depends upon whether the Policy is issued on Occurrence Basis or on Claims Made Basis. Both modes have different coverage depending upon when the loss occurred and when the claim for liability was made on the Insured. Hence, in liability claims these nuances should be noted and addressed.
- In some Policies such as those covering infidelity, the coverage is not based on when the act of infidelity was committed. The loss is covered if it is discovered during the period of insurance

A.2 Subject Matter of Insurance

Though it appears to be a fairly simple question to determine, there are a number of instances where disputes arise on whether the items that are lost or damaged are covered. This would happen when the Policy does not

correctly describe the property covered. This could also happen when the Insurer and Insured lack consensus on the items that were meant to be covered. Goods held in trust, packing materials, machinery, spares, designated property and such other assets could mean one thing to the Insurer and another to the Insured. These difficulties are best avoided by proper Policy drafting.

A.3 Interest Covered

We know that Insurable Interest is an essential requirement to claim compensation for a loss. The person who makes the claim for the loss should have Insurable Interest in the loss. Settlement of the claim therefore depends upon the nature and extent of Insurable Interest.

- In Life Insurance Policies, if nomination is not made, the settlement could be delayed.
- In property policies too, certain classes of Insured such as Bailees, Pledgees and Creditors could claim the loss only to the extent of their interest. Not in all cases is it necessary that the claimant should be the Insured.
- In Group Policies, the Insured Person could be different from the Policyholder.
- In Motor Third Party Liability, the Person who makes a claim need not be a party to the contract. The claim under a Motor Third Party is made by the victim or the legal heirs of the victim. Such victims are entitled, under law, to directly sue the vehicle Insurer and seek compensation.

A.4 Location and Jurisdiction

The coverage granted under the Policy could be limited to a particular location. This is common in property policies. The Insurer accepts the risk only at the location specified in the Policy. In certain cases, the Policy could cover multiple locations on a Floater Basis. Some Policies could even cover the assets across unnamed locations. The particular terms of coverage would determine the admissibility of the loss.

Similarly, in liability Policies, the coverage is limited to certain jurisdictions. Claims relating to uncovered jurisdictions should not be admitted.

B. OPERATING PERIL

Of particular importance is whether the loss has occurred due to an Insured Peril or not. In named Peril Policies, the Insured has to prove that the loss occurred due to an Insured Peril. If she fails to prove that the loss has been caused by an Insured Peril, the Insurer could deny the claim.

In All Risks Policies, the Insured need only prove that the loss is accidental and unforeseen. She need not prove exactly which Peril caused the loss. The Insurer could, through their Surveyor and through scrutiny of the claim documents, examine whether the loss had occurred due to an excluded Peril, and if so, the Insurer could deny the claim. If the Insurer denies a claim on the ground that the loss was caused by an Excluded Peril, the Insurer would have the burden to prove that the loss had occurred due to an Excluded Peril.

C. COMPLIANCE WITH CONDITIONS AND WARRANTIES

The Insurer should also check whether the Conditions in the Policy are complied with. Particularly, the Insurer should confirm whether the Insured had complied with all Conditions Precedent to Admission of Liability. These would include timely intimation, exercising due diligence in protecting and disposing the affected property, furnishing all information to the Insurer to enable them to decide admissibility, and protecting recovery rights against Third Parties who caused the loss. Noncompliance with any of these conditions could prejudice the admissibility of the claim.

Some Policies impose a condition that the Insured Customer exercise reasonable care in protecting the insured property. Mere negligence would not mean absence of reasonable care. But if the Insured had been reckless, the Insurer could invoke the reasonable care condition and deny the claim.

Insurers also impose Warranties in the Policies which are to be strictly complied with. For example, the Policy could impose a Warranty that no hazardous goods are stored, or that the cash in transit be accompanied by an armed guard, or that the insured premises be guarded by a watchman throughout the period of cover. A breach of such a Warranty could also affect the admissibility of the claim.

D. REJECTION

Not all claims are admissible. Some claims could fall outside the purview of the Policy. Some claims could be rejected because of a nondisclosure or misrepresentation of a material fact. No matter what, when a claim is rejected, the Insured Customer should be informed about the Rejection and the reason for the Rejection. The grounds of rejection should be clearly spelt out. The Insurer is not permitted to add new grounds of rejection after a claim rejection letter is sent.

In cases involving fraud, the Regulator and other Insurers should be alerted. In claims where a nondisclosure or misrepresentation is known, the Policy could be cancelled. Such action should be promptly taken.

Test Yourself 2

When does the Insurer have the burden to prove that the loss is due to an excluded Peril?

- A. For claims in All Risks Policies
- B. If the Insurer denies the claim on the ground that it was caused by an excluded Peril
- C. For claims in Named Peril Policies
- D. For claims in all Policies

3. Understand how Quantum of Claims payable is determined

Learning Outcome (c)

3.1 QUANTUM

Once a decision is reached that the loss is payable, the next major task for the Claims Team is to assess how much of the loss is payable. In a Benefit Policy this decision is easily reached. For, in the Benefit Policy, the stated sum is paid on the occurrence of the event. But when it comes to Indemnity Policies, the issue could get more complex. In most of the Indemnity Policies, it is likely that the Insured would not get compensated to the full amount of his loss. This happens owing to a number of reasons. Some of them are:

A. Depreciation

The underlying goal in Indemnity is to ensure that the Insured Customer is compensated for the loss he suffered, but does not get more than what he lost. This is ensured by imposing a depreciation according to the age of the property. Such depreciation is imposed on the replacement value of the machinery, building, or automobile.

But certain Policies such as Fire Policies with Reinstatement Clause, and Automobile Policies with Zero Depreciation Clause provide that no deduction be made for depreciation. In such cases, depreciation is not imposed.

B. Underinsurance

We know underinsurance is a penalty imposed on those customers who have not paid the premium appropriate to their exposure. Underinsurance applies only to some Indemnity Policies like Property. Interestingly, underinsurance is not applicable in Motor Policies. In Liability Policies and other Policies which indemnify losses up to a limit, no underinsurance is applicable.

In property Policies, the Surveyor, while assessing the loss payable, also assesses the value at risk. Should the value at risk exceed the Sum Insured, underinsurance would be applicable.

C. Deductibles

Policies could have an absolute deductible or a deductible which is expressed as a percentage of the admissible loss. For example, the Policy could have an absolute deductible of, say Rs. 25000 on each and every loss. Or the deductible could be expressed as a percentage, say 5% of each and every claim.

Such deductibles should be reduced from the amount payable.

D. Salvage

Any residual value of the damaged property should be deducted from the admissible claim. In some cases, even before the settlement, the Insurer arranges to dispose the damaged property and deducts the salvage realisation from the claim payable to the Insured Customer.

E. Others

The quantum payable should also include certain additional payments incurred towards firefighting expenses, debris removal expenses, etc. The Loss Assessment made by the Surveyor should be scrutinised to see whether the cost workings on which the loss assessment is made is correct. No element of profit should be included in the loss assessment, and it should be only on cost basis. Appropriate deductions should be made for improved performance of the new asset, dead stock and uncovered items.

Loss Assessment is not just an arithmetic exercise. The loss payable should be corroborated by other evidence such as Photographs, Video Recordings, Meteorological Reports, Fire Brigade Reports, Cost Workings, Books of Accounts, Excise Records, Purchase and Sales Invoices and a host of other supporting documents. A close scrutiny of all documents would enable the Surveyor to properly assess the loss. The Insurer also counterchecks these assessments before the claim is paid. While making the claim payment, any interest of the Bank or the Financier should be noted, and payment should be released only to the Bank or the Financier, or to the Insured Customer only if the Bank or the Financier have no objection.

Test Yourself 3

In which of the following Policies is Depreciation applicable?

- A. Fire Insurance Policies without Reinstatement Clause
 - B. Life Insurance Policies
 - C. Motor Insurance Policies with Zero Depreciation Clause
 - D. Liability Policies
-

4. Understand the importance of Reserving

Learning Outcome (d)

1. RESERVING

When a loss is reported, a liability is created. Such creation of a liability is in recognition of the fact that:

- an Insured Event has happened in one of the risks covered; and
- the Event is likely to result in a payment by the Insurer to the Insured Customer; and
- the payment may not be made immediately; and yet
- The liability is recognised and adequate reserve created.

The liability is created by making a Reserve for Outstanding Claims in the Accounts of the Insurer. This would mean that a separate outgo towards such Reserve is created, thereby reducing Profits.

The exact amount of loss payable would be known much later after the loss is reported. Yet, the Insurer should make Reserve for Loss Reported based on the information available at each stage of the claims process. Initially, the Insurer could provide a tentative sum. But as more and more information is made available, the Loss Reserve should also be periodically updated.

Apart from losses Reported, a Reserve should also be created for Losses Incurred but Not Reported. This is a Reserve which is created by experts called Actuaries. Each Insurer has Actuaries who advise them on the amount of Reserve to be created for Losses Incurred But Not Reported.

2. POST LOSS ACTION

2.1 Recovery Under Subrogation

After a loss is paid, the Subrogation Right obtained from the customer should be exercised to realise recovery from the persons responsible for the loss. Similarly, whenever a loss is paid for theft of money or automobile or jewellery, and later the property is recovered, the Insurer should expedite steps to recover the lost property and realise the proceeds after due legal clearance. In Motor Third Party Claims, where Awards are paid as per Pay and Recover directions of the Court, recovery action should be initiated against the Insured or other parties responsible.

2.2 Recovery from Co-Insurers

If the Policy carries a Co-Insurance Clause, the Lead Insurer settles the entire claim amount, including the share of the Co-Insurers. In such cases, the proportionate share of the Co-Insurers should be recovered from them.

2.3 Recovery from Reinsurers

In some cases, the claim payment would be covered by Reinsurance. This could happen when:

- The loss amount exceeds the retention of the Insurer
- There are multiple losses, as in a catastrophe, and the aggregate amount of these losses exceeds the per event limit chosen by the Insurer.

In such cases, recovery is to be effected from the Reinsurers.

2.4 Loss Data Analysis

The loss data represents a guidance framework to improve underwriting practices. Analysis of loss data would provide valuable insights on the loss drivers, customer behaviours and emerging risks. These insights should be shared with the Underwriting and Actuarial teams to update Underwriting practices. These inputs would also prove valuable in Product Design.

2.5 Other Post Loss Activities

Post Loss Action should also include Appraisal of the associated agencies involved in the claims process such as Surveyors, Advocates and Third Party Administrators.

Loss Experience should also guide the Insurers in Product Design. Repeated losses could be avoided by incorporating additional exclusions. Deductibles could be increased.

Recurring losses could also be addressed by the Insurance Industry bodies by appeal to the Police and other enforcement mechanisms for loss reduction. The Insurance Industry bodies could provide valuable inputs to the enforcement agencies to curb crimes and accidents.

Test Yourself 4

What is IBNR?

- A. Incurred But Not Reported
- B. Intimated But Not Reserved
- C. Initiated But Not Received
- D. Important But Not Relevant

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is C.

Change in Fashion is not a Pure Risk but a Speculative Risk. A Speculative Risk could result in a Profit or Loss, and not insurable.

Answer to Test Yourself 2

Correct Answer is B.

The burden of proving the loss usually rests with the Insured. But if the Insurer denies the claim alleging that the loss had happened due to an Excluded Peril, then they have the burden to prove that the loss occurred due to an Excluded Peril.

Answer to Test Yourself 3

Correct Answer is A.

In other cases, Depreciation is not applicable.

Answer to Test Yourself 4

Correct Answer is A.

A Reserve is created by the Actuary for those loss events which had occurred during the financial year, but not intimated by the Insured during that financial year. This Reserve is called Reserve for Claims Incurred but Not Reported. (IBNR)

Summary:

Claims is the raison d'etre of insurance. An insured event occurs and produces losses to the Insured. The Insured who lost the insured property makes a claim on the Insurer. The claims process begins with intimation, followed up by loss assessment, determination of liability and payment. Payment is also followed by post recovery action. Reserving is another important part of claims management.

Self-examination questions

Question 1

Which of the following Events does not result in a loss to the Insured?

- A. Fire accident in the Insured factory
- B. Flood damaging insured goods in a warehouse
- C. Theft of goods from the shop
- D. Maturity of a Life Insurance Policy

Question 2

Why is fire fighting expenses reimbursed to the Insured?

- A. To encourage loss minimisation efforts
- B. To prevent fire losses
- C. To increase fire losses
- D. To analyse cause of fire

Question 3

Which of the following is not relevant to decide admissibility of a claim?

- A. Sum Insured
- B. Date of Loss
- C. Location of the insured property
- D. Cause of Loss

Question 4

In which claims does Pay and Recover Arise?

- A. Credit Insurance
- B. Motor Third Party
- C. Health Insurance
- D. Employee Compensation

Question 5

What is a Loss Reserve?

- A. Money kept in the bank to meet claim payments
- B. Money kept aside for increase in loss ratio
- C. Provision in the books of the Insurance Company to account for loss liability
- D. Variation in Claim Payment from Surveyor Assessment

Answers to self-examination questions:

Answer to Question 1:

The correct option is D.

Answer to Question 2:

The correct option is A.

The Insured should not be lax in their effort to minimise the loss. Hence firefighting expenses incurred by them are reimbursed.

Answer to Question 3:

The correct option is A

First, admissibility of the claim is decided. Once it is decided that the claim is payable, Sum Insured is relevant for effecting payment. Hence Sum Insured is not relevant for deciding admissibility.

Answer to Question 4:

The correct option is B.

Answer to Question 5:

The correct option is C

CHAPTER 10

REINSURANCE

Chapter Introduction

In this Chapter, we will understand the need for Reinsurance. We will also study the different types and different methods of Reinsurance. We will see the difference between a Treaty and a Facultative placement and also the difference between a Proportional and Non-proportional Reinsurance.

■ Learning Outcomes

- a. Understand the need for Reinsurance
- b. Learn the different Reinsurance arrangements
- c. Study how Proportional Reinsurance works
- d. Study how Non-Proportional Reinsurance works

1. Understand the need for Reinsurance

Learning Outcome (a)

Just as an individual needs Insurance to protect himself against losses that he cannot bear, an Insurer needs Reinsurance to protect themselves against losses their Company cannot bear.

The Insurer needs Reinsurance for such reasons as:

Protection:

The Insurer needs protection against single large losses, or accumulated losses caused by single events.

Stability:

Without Reinsurance, the Insurer's results would be very volatile. They may post handsome profits one year, only to post huge losses the next. Reinsurance insulates them from shocks due to high unexpected losses.

Capital:

The amount of business an Insurance Company can underwrite is restricted by the amount of Capital they have. Reinsurance enables the Insurance Companies to write more business by providing capacity to underwrite more business. Thus the Capacity provided by the Reinsurance Companies relieve the Insurance Companies from the burden of carrying additional Capital.

Rating:

Insurer's standing in the market depends on their rating. An Insurer who is adequately reinsured gets a better rating in relation to an Insurer who is inadequately reinsured.

Expertise:

Sometimes, Insurers are called upon to write risks they are not familiar with. In such cases, the Reinsurer, with their global operations and expertise, help the Insurer write the risks. Such Reinsurance arrangement could prove to be a valuable source of knowledge to the Insurer.

Diversification:

An Insurer would like to diversify their exposure in terms of lines of business or geography or demography. Reinsurers could facilitate such diversification by enabling the Insurer to embark upon unchartered territories.

Reinsurance Contract

In Reinsurance, the Reinsurance Premium is paid by the Insurer to the Reinsurer. In the event of a loss, the Insurer settles the claim direct to the customer and seeks recovery of the Reinsurer's share of the loss. The Reinsurer settles the claim amount due to the Insurer.

The Insurance Contract is between the Customer and the Insurer. The Reinsurance Contract is between the Insurer and the Reinsurer.

The Customer is not a party to the Reinsurance Contract. Hence, the Customer cannot directly make a claim with the Reinsurer. However, in some special cases, the Reinsurance Contract has a Cut Through Clause. If the Reinsurance Contract has the Cut Through Clause, the Insured Customer could claim money directly from the Reinsurer.

Though at a conceptual level, insurance and reinsurance work on the same principles, in practice, Reinsurance has more complex arrangements between the Insurer and Reinsurer. We will study them.

Test Yourself 1

In a Reinsurance, Risk is transferred from

- A. Direct Customer to Reinsurer
 - B. Direct Customer to Insurer
 - C. Insurer to Reinsurer
 - D. Reinsurer to Insurer
-

2. Learn the different Reinsurance arrangements

Learning Outcome (b)

REINSURANCE ARRANGEMENTS

There are two types of Reinsurance Arrangements- Facultative and Treaty. Reinsurance Arrangements are either made on a Facultative basis or on a Treaty basis.

FACULTATIVE PLACEMENT

A Facultative Placement is a need based, occasional reinsurance. In a Facultative arrangement, the Insurer has the option to place the Reinsurance or not. Similarly, the Reinsurer has the option to accept the Reinsurance or not. Thus, a Facultative placement happens only if the Insurer decides to place a risk for Reinsurance and the Reinsurer agrees to accept the risk.

The advantage in a Facultative placement is that it provides considerable flexibility to the Insurer in deciding which are the risks that need to be reinsured. The Reinsurer is also afforded the flexibility to choose which risks to accept and which risks to reject. The disadvantage in a Facultative arrangement is that each transaction has to be negotiated by both the parties afresh, and this could entail considerable investment of time and money in concluding each transaction.

TREATY

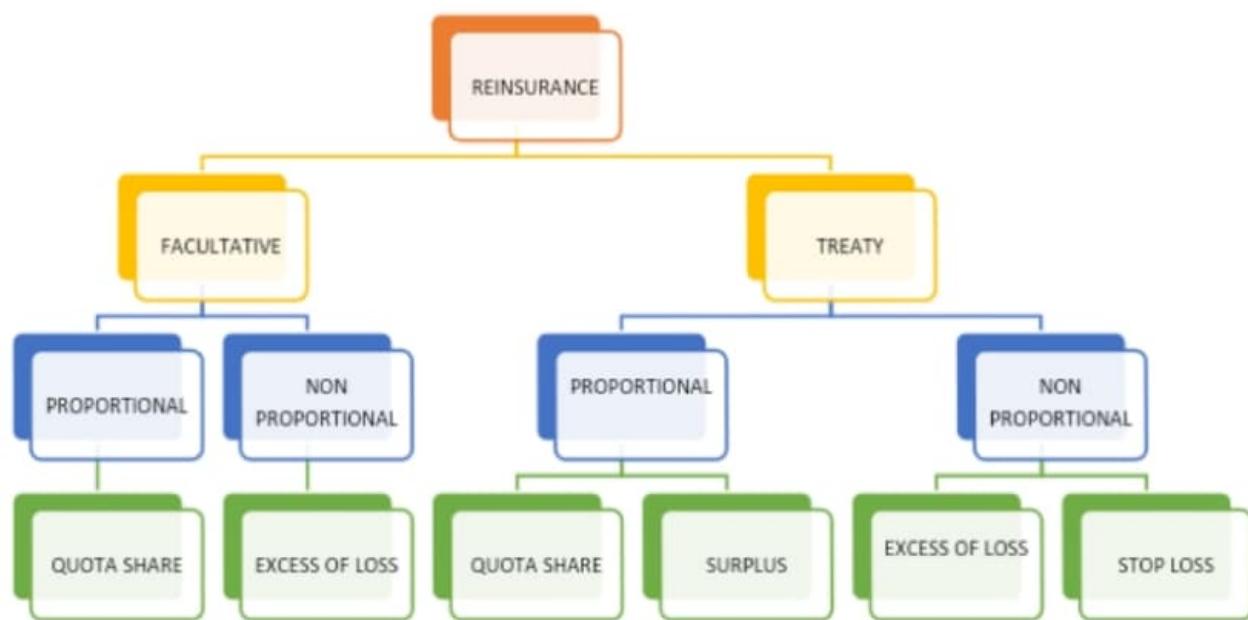
A Treaty is a relatively more permanent arrangement, wherein the Insurer agrees to cede all specified risks to the Reinsurer. The Reinsurer also agrees to accept all such risks ceded without demur. Thus, in respect of the specified risks the Insurer does not have a choice. They have to reinsure such risks specified in the Treaty. In respect of such risks ceded, the Reinsurer also does not have the choice to accept the risk or not. They have to accept all risks which are ceded under the Treaty.

Such an arrangement between the Insurer and the Reinsurer is called a Treaty and is usually made for a period of one year. The advantage in a Treaty type of reinsurance is that both the parties are assured of some certainty in the nature and volume of business they could be transacting with each other. However, if the business turns out to be too loss making, the Reinsurer could end up subsidising bad underwriting. If the business turns out to be more profitable, the Insurer could be losing profits.

Generally the Insurer would require both types of Reinsurance. The nature of the business and the value distribution of the risks underwritten determine the type of Reinsurance needed.

While there are two types of Reinsurance, there are also two methods of Reinsurance. These are called Proportional and Non-Proportional Reinsurance. Both methods of Reinsurance are transacted in both types of Reinsurance. Thus, a Proportional Reinsurance could be placed through a treaty or through a facultative placement. A Non-Proportional Reinsurance could also be placed through a treaty or through a facultative placement.

We would study the different methods of Reinsurance:



Test Yourself 2

Which of the following is not true?

- A. Quota Share is a Proportional Reinsurance arrangement
- B. Stop Loss is a Proportional Reinsurance arrangement
- C. Excess of Loss could be reinsured either facultatively or by treaty
- D. Surplus is a Proportional Reinsurance arrangement

3. Study how Proportional Reinsurance works

Learning Outcome (c)

PROPORTIONAL REINSURANCE

In Proportional Reinsurance, both premium and claims are shared between the Insurer and the Reinsurer in an agreed proportion. There are two methods in Proportional Reinsurance. These are Quota Share and Surplus.

QUOTA SHARE TREATIES

A Quota Share Treaty is an arrangement whereby the Insurer and the Reinsurer share the premium and the claims in a specified proportion. Thus in a 20% Quota Share Treaty, the Insurer pays the Reinsurer 20% of the premium for each and every risk. The Reinsurer, in turn, pays the Insurer 20% of each and every loss.

In a Quota Share arrangement, the Insurer and the Reinsurer are exposed to the same loss probability for their respective shares of the business. There are a few rules to this sharing arrangement. These are:

- Both the Insurer and the Reinsurer agree what type of business is to be shared. It could be a particular type of risk, or a particular line of business.
- The maximum Amount that could be ceded to the Treaty is decided right at the commencement of the Treaty.
- In addition, the Reinsurer could also limit their liability for single event losses.

Let us consider an example to better understand how the Quota Share Treaty works:

- Assume that Direct Insurer AAA has a Quota Share Treaty with Reinsurer RRR.
- The Treaty covers all fire risks where the Sum Insured is upto ₹500 Crores.
- It is a 20% Quota Share Treaty.

The % indicates the % of the risk and the premium that has to be ceded to the Reinsurer. Thus in this case, 20% of all Fire Risks where the Sum Insured is less than or equal to ₹500 Crores will be ceded to the Reinsurer. In other words, the Reinsurer is responsible for 20% of all claims arising under the Treaty as long as the Sum Insured for that risk does not exceed ₹500 Crores. Look at this Table to see how the treaty works.

| NAME OF THE INSURED | DIRECT BUSINESS UNDERWRITTEN | | 80% RETAINED BY INSURER AAA | | 20% CEDED TO REINSURER RRR | |
|---------------------|------------------------------|--------------|-----------------------------|--------------|----------------------------|--------------|
| | SUM INSURED ₹ Crores | PREMIUM ₹ | SUM INSURED ₹ Crores | PREMIUM ₹ | SUM INSURED ₹ Crores | PREMIUM ₹ |
| B2B CHEMICALS | 100 | 8,00,000 | 80 | 6,40,000 | 20 | 1,60,000 |
| YRU AUTOMOBILES | 480 | 36,00,000 | 384 | 28,80,000 | 96 | 7,20,000 |
| ALL FINE TEXTILES | 50 | 1,00,000 | 40 | 80,000 | 10 | 20,000 |
| SWEET FOODS | 80 | 1,60,000 | 64 | 1,28,000 | 16 | 32,000 |
| TOTAL | 710 | 46,60,000 | 568 | 37,28,000 | 142 | 9,32,000 |

Table 1 Quota Share Treaty. The proportion between Risk Retained and Risk Ceded is a constant. It is 80:20

It could be seen that each and every risk is shared between the Insurer and the Reinsurer in the ratio of 80:20. The exposure for the Insurer and Reinsurer will be in the ratio of 80:20. The Premium would also be shared in the ratio of 80:20. In case any loss arises under the risk ceded to the treaty, it would also be shared between the Insurer and Reinsurer in the ratio of 80:20. Thus, if there is a loss of ₹50 Crores in Sweet Foods, the Insurer will bear 40 Crore loss and the Reinsurer will bear 10 Crore loss. Sum Insured, Premium and Claims are thus shared in the same proportion in Quota Share Treaties.

What will be the case if the Sum Insured exceeds the Treaty Limit of ₹500 Crores?

- Let us take the case of Sunrise Steel where the Sum Insured is ₹800 Crores.
- In this case, the Sum Insured exceeds the 100% Treaty Limit of ₹500 Crores.
- The Sum Insured upto the Treaty Limit of ₹500 Crores is shared between the Insurer and the Reinsurer in the ratio of 400:100 Crores.
- The balance ₹300 Crores is placed through a Facultative arrangement, preferably on proportional basis.

Thus the respective share of the players in the risk for Sunrise Steel would be:

| | SUM INSURED ₹ Crores | PREMIUM | % SHARE |
|--------------------------------|-------------------------|-----------|---------|
| DIRECT INSURER | 400 | 20,00,000 | 50.00% |
| QUOTA SHARE REINSURER | 100 | 5,00,000 | 12.50% |
| FACULTATIVE PROP. REINSURER | 300 | 15,00,000 | 37.50% |
| TOTAL | 800 | 40,00,000 | 100.00% |

Thus the Sum Insured, Premium and Loss would be shared between the Insurer, Quota Share Treaty Reinsurer and Facultative Proportional Reinsurer in the ratio of 50:12.5:37.5.

Reinsurance Commission

In a Quota Share Treaty, the Insurer is paid a Commission on the Reinsurance ceded to the Reinsurer. This Commission compensates the Direct Insurer for the Commission paid to their Agents and Brokers for procuring the business from the customers. It also compensates the Direct Insurer for the cost of administering the Policies issued by them. The Commission is paid at a flat rate on the Premium ceded to the Reinsurer, or at a rate that varies depending upon the Loss Ratio of the business ceded.

Quota Share- Pros and Cons

Quota Share is a good reinsurance arrangement for new and small Insurers. A new or small Insurer might not have adequate capital, and hence is dependent on Reinsurance support. Some Insurers could also be new to a line of business underwritten. Until they gain adequate experience in that line of business, they would like to limit their exposures. In such cases, Quota Share Reinsurance is a preferable arrangement. It is easy to administer and easy to understand.

However, the Insurer should avoid dependence on Quota Share in the long run, as they would be ceding profitable business to the Reinsurer instead of realising the profits to their own account.

SURPLUS TREATIES

In a Quota Share Treaty, the Insurer places a portion of all business in the defined segment with the Reinsurer. Thus in the 20% Quota Share arrangement that we saw between Insurer AAA and Reinsurer RRR, with a 100% Treaty Limit of ₹500 Crores, the Direct Insurer will place 20% of all Fire business where the Sum Insured is upto ₹500 Crores. Even if the Sum Insured is ₹10 Lakhs, the premium relating to ₹2 Lakhs has to be paid to the Reinsurer.

While such arrangements are acceptable for a new Insurer, this might not be suitable for established Insurers, as they would have developed capital and capabilities to handle exposures for higher values. In such cases, they would be averse to sharing each and every risk with the Reinsurer and could be looking for sharing only a few risks which exceed their Retention. Surplus Treaty is highly suited for such preferences.

In Quota Share Treaties, the Insurer has to cede a share of each and every risk. In a Surplus Treaty, the Insurer can share only those risks where the sum insured exceeds a specified limit, called retention.

In a Surplus Treaty, the Direct Insurer first decides the limit upto which they would retain the risk. All Risks where the Sum Insured is less than the chosen limit is retained by the Insurer. These Risks are not reinsured. The limit chosen is called the Retention Limit. The Retention Limit is also called a Line. In a Surplus Treaty, only those risks where the Sum Insured is more than the Retention Limit are reinsured. The Reinsurer takes the risks in excess of the Retention Limit.

The difference between the Sum Insured and the Retention Limit is called Surplus. Thus, in all those risks where the Sum Insured is higher than the Retention Limit, the Reinsurer takes the risks to the extent of the Surplus. It however does not mean that the Reinsurer takes any amount of Surplus.

The Surplus Reinsurer usually places a limit on the amount of Surplus that could be ceded to them. This limit on the Surplus to be ceded to the Reinsurer is expressed as a multiple of the Retention Limit of the Direct Insurer.

- Thus, if the Direct Insurer chooses a Retention Limit of, say, ₹100 Crores, this Retention Limit is called a Line.
- The limit upto which the Surplus Reinsurer will take the risk is expressed as a multiple of this Retention Limit.
- Thus, a Five Line Surplus Treaty would mean that the Surplus Reinsurer would take all risks where the Sum Insured is in excess of ₹100 Crores. But the maximum amount that could be ceded to the Surplus Reinsurer would not exceed ₹500 Crores. (Five times the Line of ₹100 Crores.)

To illustrate, the Insurer AAA wants to retain all Fire risks where the Sum Insured is upto ₹50 Crores. Therefore, they enter into a Surplus Treaty with Reinsurer RRR. RRR provides them a ten line Surplus treaty. This would mean that RRR would accept reinsurance ten times fifty crores.

- AAA could transfer risks exceeding 50 Crores and upto 550 Crores.
- If the Sum Insured under a risk is ₹50 Crores or less, AAA retains it to their account.

- If the Sum Insured under a risk is ₹55 Crores, AAA retains ₹50 Crores, and cedes risk for ₹5 Crores to the Reinsurer, RRR.
- If the risk is ₹550 Crores, AAA retains ₹50 Crores and cedes to ₹500 Crores, to RRR.

What will happen if the Sum Insured under a risk is ₹800 Crores?

- In this case, AAA would retain ₹50 Crores, RRR ₹500 Crores. The balance ₹250 Crores, either AAA retains this to their net, or finds another reinsurer, preferably on a facultative proportional basis.

Once a risk is ceded to the treaty, all losses would be shared in the proportion of retention to surplus, ground up. Ground up means the entire amount of loss, without any deduction. Thus, though only risks exceeding the retention limit would be ceded to the treaty and shared with the reinsurer, even a small loss under a risk ceded to the treaty would be shared between the Insurer and the Reinsurer in the proportion of Retention to Surplus.

The way the Surplus Treaty works is:

- The Direct Insurer decides the Retention Limit for each group of business falling under the Surplus Treaty. This Limit is called a Line.
- Is the Sum Insured for the Risk lesser than the Retention Limit?
- If so, the Risk is completely retained by the Direct Insurer.
- If the Sum Insured for the Risk is more than the Retention Limit,
- The difference between Sum Insured and Retention Limit is ceded to the Reinsurer.
- This difference between the Sum Insured and the Retention is called Surplus.
- The maximum Surplus that could be ceded to the Reinsurer is stated as a Multiple of the Retention Limit, as a Multiple of the Line.
- Once a Risk is ceded to the Reinsurer, every single loss under the ceded Risk is shared between the Insurer and the Reinsurer in the proportion of Retention to Surplus.

Thus, in the example we saw, if on a risk of 550 Crores, AAA retains 50 Crores and cedes 500 Crores to the Surplus Treaty, even a small loss of 5.5 Lakhs would be shared between the Insurer and the Reinsurer in the ratio of 1:10. RRR, would therefore pay AAA 5 Lakhs as the Reinsurer's share of the loss. ($10/11 * 5.5 \text{ Lakhs} = 5 \text{ Lakhs}$)

The same risks we saw in the example under Quota Share would be shared differently in a ten line surplus on a retention of 50 Crores. See the Table2 below:

| NAME OF THE INSURED | DIRECT BUSINESS UNDERWRITTEN | | 50 Crore is the Retention | | Ten Line Surplus Treaty | |
|---------------------|------------------------------|-----------|---------------------------|-----------|-------------------------|-----------|
| | | | Retained with AAA | | Ceded to RRR | |
| | SUM INSURED ₹ Crores | PREMIUM ₹ | SUM INSURED ₹ Crores | PREMIUM ₹ | SUM INSURED ₹ Crores | PREMIUM ₹ |
| B2B CHEMICALS | 100 | 8,00,000 | 50 | 4,00,000 | 50 | 4,00,000 |
| YRU AUTOMOBILES | 480 | 36,00,000 | 50 | 3,75,000 | 430 | 32,25,000 |
| ALL FINE TEXTILES | 50 | 1,00,000 | 50 | 1,00,000 | | |
| SWEET FOODS | 80 | 1,60,000 | 50 | 1,00,000 | 30 | 60,000 |
| TOTAL | 710 | 46,60,000 | 200 | 9,75,000 | 510 | 36,85,000 |

Table 2 Surplus Treaty. The Ratio between Risk Retained and Risk Ceded changes with each risk.

Difference Between Quota Share and Surplus Treaties

Both these treaties are Proportional. The differences are:

- In Quota Share, each and every risk is ceded to the Treaty.
- In Surplus, only those risks where the Sum Insured is more than the Retention are ceded.
- In Quota Share, the Risk, Premium and Losses are shared in the same fixed proportion.
- In Surplus, the Risk, Premium and Losses are shared in the proportion of Retention to Surplus.
- In Quota Share, the proportion of Insurer's and Reinsurer's share of the risk is a constant.
- In Surplus, it varies with each risk, as it is in the proportion of Retention to Surplus.

The Table below would illustrate how the risks have changing proportions in Surplus:

| NAME OF THE INSURED | DIRECT BUSINESS UNDERWRITTEN | INSURER AAA | SURPLUS REINSURER RRR | Retention % |
|---------------------|------------------------------|----------------------|-----------------------|-------------|
| | SUM INSURED ₹ Crores | SUM INSURED ₹ Crores | SUM INSURED ₹ Crores | |
| B2B CHEMICALS | 100 | 50 | 50 | 50% |
| YRU AUTOMOBILES | 480 | 50 | 430 | 10.42% |
| ALL FINE TEXTILES | 50 | 50 | | 100% |
| SWEET FOODS | 80 | 50 | 30 | 62.50% |

Test Yourself 3

If the Insurer's Retention is 200 Crores and they have a Ten Line Surplus treaty, what is the Treaty capacity?

- A. 2200 Crores
 - B. 2000 Crores
 - C. 1800 Crores
 - D. 200 Crores
-

4. Study how Non-Proportional Reinsurance works

Learning Outcome (d)

NON-PROPORTIONAL TREATIES

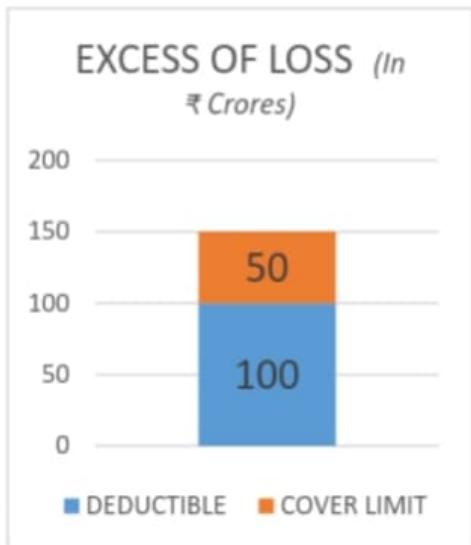
The most striking feature of Proportional Treaties is that risks, premium and losses are shared between the Insurer and Reinsurer in some proportion. Non-Proportional Treaties, in contrast, do not share risks, premium and losses in any proportion. Under a Non-Proportional Treaty, the Reinsurer compensates only those losses which exceed a defined limit. These limits could be per risk, per event, per year and so on.

The major drawback in a Proportional Treaty is that the Reinsurer had to be fed each and every business in the portfolio. Though under a Surplus Treaty, risks upto the retention limit are retained, yet in all Proportional Treaties, the Reinsurer takes a significant share of the profits. Any Insurer would like to build their profitable portfolio and to retain profits to their Account. Hence, as the Insurer gains market share and volumes, they would prefer to retain more and more of the risks underwritten to their net Account. But there are occasions where the Insurer might not be able to meet the losses themselves.

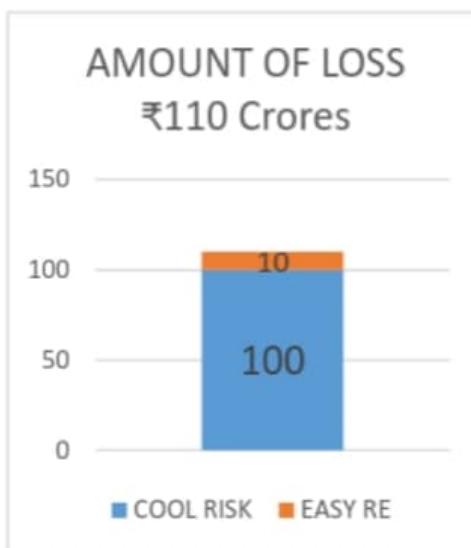
In such cases, Non-Proportional Reinsurance provides solutions to address the Insurer's needs. There are two types of Non-Proportional Reinsurance arrangements- Excess of Loss and Stop Loss. Excess of Loss is the more popular type of Non-Proportional Reinsurance.

EXCESS OF LOSS REINSURANCE

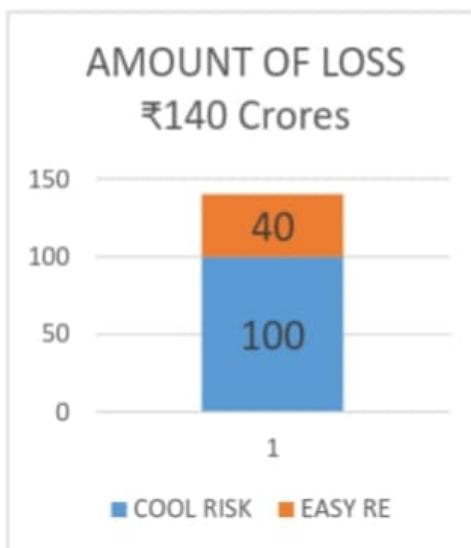
Excess of Loss Reinsurance operates to provide reinsurance support for losses exceeding a chosen limit. In an Excess of Loss Reinsurance, the Insurer chooses a limit which is called a Deductible. Each and every loss that is within the limit of the Deductible is to be borne by the Insurer. In case the loss exceeds the Deductible, the Reinsurer pays the amount of loss in excess of the Deductible. But the Reinsurer does not pay a loss exceeding the Deductible for an unlimited amount. The Reinsurer limits the amount they would pay in excess of the Deductible. The maximum amount that a Reinsurer would pay is called Cover Limit.



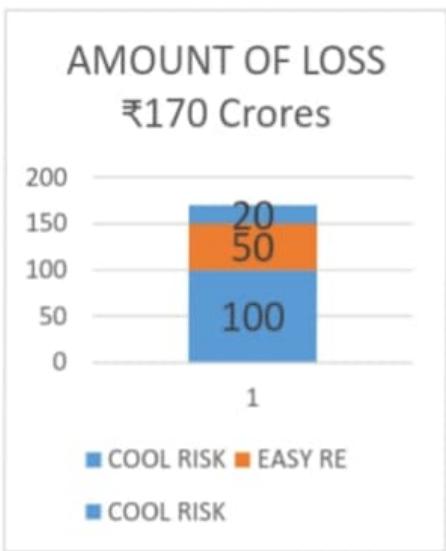
To illustrate, assume Cool Risk Insurer enters into an Excess of Loss Reinsurance arrangement with the Reinsurer, Easy Re, with a Deductible of ₹100 Crores and a Cover Limit of ₹50 Crores. Then all losses upto ₹100 Crores are borne by Cool Risk Insurer.



If there is a loss of ₹110 Crores, Cool Risk bears ₹100 Crores and Easy Re bears ₹10 Crores.



If there is a loss of ₹140 Crores, Cool Risk bears ₹100 Crores and Easy Re bears ₹40 Crores.



If the loss is, say, ₹170 Crores, then Cool Risk bears ₹100 Crores. But Easy Re does not bear ₹70 Crores, but only ₹50 Crores, because that is their cover limit. The balance ₹20 Crore has to be borne by Cool Risk Insurer.

Thus Excess of Loss Reinsurance is designed to cover an Insurer's loss in excess of a stated sum, called the Deductible, upto a stated sum, called Cover Limit. The Insurer pays premium for Excess of Loss, which is usually a % of the Premium Income.

Excess of Loss Reinsurance has two variants- Risk Excess of Loss called Risk XL and Catastrophe Excess of Loss called Cat XL.

Risk XL

Insurers cannot write any risk for any value. The maximum amount that they can retain in respect of each risk is derived by a number of factors such as nature of risk, amount of Capital available, loss experience, and so on. In any case, no matter how big the Insurer is, there is always a limit beyond which they cannot retain a risk to their account.

In some cases, a risk is offered to the Insurer for coverage where the Sum Insured is beyond their retention. The Insurer needs Reinsurance Protection to cover such risks where the Sum Insured is more than the Retention of the Insurer. In such cases, reinsurance is arranged on a per risk basis. It is called a Risk XL. In Risk XL each and every Risk is covered beyond the Deductible upto the Cover Limit.

Risk XL thus provides reinsurance for one Risk. The reinsurance cover under Risk XL is for each and every risk for each and every occurrence. Risk XL usually covers all Perils that the underlying insurance covers. Thus, if the direct insurance is for a Policy covering Fire, Flood and Earthquake risks, the Reinsurance under Risk XL would also cover Fire, Flood and Earthquake risks.

The Deductible and Cover Limit that we studied in the previous Section applies to all Excess of Loss Covers, both Risk XL and Cat XL.

How does Risk XL Work?

- Risk XL Cover is usually bought on a Facultative Basis or under a Treaty arrangement.
- In Risk XL, a risk which exceeds the chosen Deductible is reinsured with the Reinsurer upto the Cover Limit.
- Any loss that is within the Deductible is borne by the Insurer.
- Any loss, caused by an Insured Peril, exceeding the Deductible is paid by the Reinsurer upto the chosen Cover Limit.

Cat XL

The Insurer may not be writing high value risks. Each and every risk that the Insurer writes could be within their Retention. But in an event like Flood or Earthquake, there could be many small losses, in respect of such small risks. The losses would be small for each risk, but in an event like Flood or Earthquake, there could be many such small losses for many such small risks. The cumulative effect of such small losses could exceed the Retention of the Insurer.

The Insurer needs protection against the cumulative effect of a large number of small losses caused by a single event. Catastrophe Excess of Loss, also called Cat XL, provides reinsurance for multiple losses caused by one event such as Flood or Earthquake that result in a huge cumulative loss. The Cat XL cover is generally for named Perils such as Flood, Cyclone, Earthquake or Terrorism. It does not cover other losses by Perils such as Fire and Accidental Damage.

If the aggregate losses from multiple risks caused by the same event exceed the Deductible, then the Cat XL Reinsurer pays the loss in excess of the Deductible upto Cover Limit.

Generally Cat XL treaties get triggered only when at least two risks are affected by the same event. This is called the Two Risk Warranty.

How does Cat XL work?

To study how Cat XL works, take the following example in Table 3.

Chandra Insurance has a Catastrophe Excess of Loss treaty with Aditya Re, covering Flood and Earthquake. The cover is for Rs. 500 Crores in Excess of Rs. 200 Crores. What is the amount of loss that Aditya Re will pay Chandra Insurance?

| DATE OF LOSS | NAME OF RISK | AMOUNT OF LOSS IN Rs. Crores | Cause of Loss |
|--------------|--------------|------------------------------|---------------|
| 25.07.2022 | A | 30 | FLOOD |
| 25.07.2022 | B | 140 | FLOOD |
| 25.07.2022 | C | 110 | FLOOD |
| 25.07.2022 | D | 165 | FIRE |
| 25.07.2022 | E | 90 | FLOOD |

Table 3 Cat XL

- The total amount of losses on 25.07.2022 is Rs. 535 Crores.
- But the loss for Rs. 165 Crores is from Fire. It is not covered under the Cat XL.
- Out of the balance loss of Rs. 370 Crores caused by the same flood, the Deductible is Rs. 200 Crores.
- Therefore, the flood losses of Rs. 370 Crores would be shared between Chandra and Aditya, where Chandra would retain the deductible of Rs.200 Crores and Aditya would pay the balance of Rs. 170 Crores.
- It should be noted, that if the aggregate loss for that flood on 25.07.2022 was, say, Rs. 750 Crores, then Aditya would not pay Rs. 550 Crores, but only Rs. 500 Crores which is their Cover Limit.

Reinstatement

It should also be noted that the Cover Limit could get exhausted with one or more catastrophe events. The Cover Limit of Rs. 500 Crores, in this example where Aditya pays Rs. 170 Crores, will get reduced to Rs.330 Crores. If there is another flood during the year, the maximum amount that Aditya would pay is only Rs. 330 Crores. The Cover Limit could, however, be reinstated on payment of additional premium to the Reinsurer.

STOP LOSS

A Risk XL Reinsurance would help the Insurer in case a single high value risk meets with a loss caused by any Insured Peril.

A Cat XL Reinsurance would help the Insurer in case of multiple smaller losses caused by a single catastrophic event such as Flood or Earthquake.

However, it could so happen that in the same year, there could be multiple catastrophic events. Even with reinsurance protection for catastrophes, the retained losses for multiple catastrophe events could be quite high. In order to protect their portfolio against a high loss ratio due to occurrence of multiple catastrophic events, the Insurer could get reinsurance coverage.

Such Reinsurance cover is called a Stop Loss. It is designed to protect the Insurer if their portfolio of risks in one or more lines of business faces a higher than normal loss ratio due to the operation of multiple catastrophic events. The Reinsurance under Stop Loss is usually triggered when the cumulative losses in the insured portfolio exceeds a specified amount or exceeds a specified loss ratio. The loss ratio is expressed as the ratio of losses incurred to net premium. The Reinsurer could provide support if the loss exceeds the stated limit. The support is limited to a particular amount or to a particular % of the net premium. Thus, a Stop Loss Reinsurance cover could provide support for 20% in excess of the Incurred Loss of 120%.

Stop Loss Reinsurance is another method of Non-Proportional Reinsurance. But this is not a popular method because Reinsurers are usually reluctant to provide Stop Loss cover. Reinsurers do not generally provide this cover as at times it could end up subsidising the inefficiencies of the direct Insurer.

Test Yourself 4

Which of the following is not a Non-Proportional Reinsurance?

- A. Risk Excess of Loss
 - B. Surplus
 - C. Stop Loss
 - D. Catastrophe Excess of Loss
-

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is C. In a Reinsurance Contract, risk is transferred from Insurer to Reinsurer.

Answer to Test Yourself 2

Correct Answer is B. Stop Loss is a Non-Proportional Reinsurance arrangement.

Answer to Test Yourself 3

Correct Answer is A. Capacity is the sum of Retention and committed Reinsurance.

Answer to Test Yourself 4

Correct Answer is B. Surplus is a Proportional Reinsurance arrangement.

Summary:

Reinsurance is insurance for Insurers. Just as the customer who owns an asset buys insurance to mitigate the financial loss arising out of an Insured Peril, the Insurer buys Reinsurance to face the burden of single or cumulative losses which exceed their Retention.

Reinsurance can be purchased as a single transaction which is called a Facultative placement, or by a more permanent arrangement called a Treaty.

Proportional Reinsurance shares the risk, premium and the losses between the Insurers and Reinsurers in a predefined ratio. Non-Proportional Reinsurance does not share premium or losses proportionately. Non-Proportional Reinsurance operates where the loss exceeds a stated limit.

Self-examination questions

Question 1

A risk with a Sum Insured of Rs. 600 Crores is ceded to the Reinsurer under a 20% Quota Share with a Treaty Limit of 500 Crores (100%). If the loss is for Rs. 120 Crores, how much would the Reinsurer pay?

- A. Rs. 20 Crores
- B. Rs. 24 Crores
- C. Rs.100 Crores
- D. Rs.120 Crores

Question 2

A risk with a Sum Insured of Rs. 600 Crores is ceded to a Reinsurer under a Five Line Surplus Treaty. The Insurer's Retention is Rs. 100 Crores. If the loss is for Rs. 60 Crores, how much would the Reinsurer pay?

- A. Rs. 10 Crores
- B. Rs. 24 Crores
- C. Nothing
- D. Rs. 50 Crores

Question 3

In a Surplus Treaty, the risk and losses are shared between the Insurer and the Reinsurer

- A. Non Proportionally
- B. In the Proportion of Surplus to Retention
- C. In the Proportion of Retention to Surplus
- D. In a fixed percentage

Question 4

Which of the following statements is correct?

- A. Risk Excel is triggered only if the loss affects more than one risk.
- B. Risk Excel is triggered only if the Annual Loss exceeds a stated limit.
- C. Risk Excel is triggered only if the loss exceeds the Deductible.
- D. Risk Excel is triggered only if the loss exceeds the Cover Limit.

Question 5

What is Reinstatement?

- A. Reinstatement of the Premium in Proportional Treaties.
 - B. Reinstatement of the Deductible.
 - C. Reinstatement of the Premium in Non-Proportional Treaties
 - D. Reinstatement of the Cover Limit.
-

Answers to self-examination questions:

Answer to Question 1:

The correct option is A.

Since the Treaty Limit is Rs.500 Crores, the Insurer can cede only 20% of 500 Crores, which is 100 Crores. Total Sum Insured is 600 Crores, of which Reinsurer's share of the exposure is 100 Crores. Therefore they would be liable for 1/6 of the loss.

Answer to Question 2:

The correct option is D.

The Insurer would have retained 100 crores and ceded the surplus of 500 crores. The loss would be shared in the proportion of Retention to Surplus. Loss of 120 Crores would be shared in the proportion of 100:500.

Answer to Question 3:

The correct option is C

Answer to Question 4:

The correct option is C.

Answer to Question 5:

The correct option is D

CHAPTER 11

INSURANCE ACCOUNTS

Chapter Introduction

This Chapter will discuss the need for Accounting. Like so many other disciplines, Accounting is founded on certain concepts and Principles. We will study them. In the Insurance context, we will understand how income, the premium and investments, is accounted. We will also learn how claims and other outgo are accounted, and finally how Profits are derived for the Insurance Company.

■ Learning Outcomes

- a. Understand why Accounts is necessary
- b. Learn the important concepts of Accounting
- c. Understand how premium is accounted
- d. Understand how claims and other outgo are accounted
- e. Understand how Profit of an Insurance Company is calculated

1. Understand why Accounts is necessary

Learning Outcome (a)

Whatever we do in life needs to be measured. If you drive a car, you wish to know at what speed you are driving, and what distance you have covered. If you are a student, your understanding of the subject would be measured by subjecting you to a test and scoring your mark. If a Doctor examines a patient, he measures his pulse, blood pressure and temperature. Similarly, an Organisation also needs to have its performance measured.

Such measurement is done to assess the performance of the Company in terms of market share, sales volume, number of customers acquired, new business sales and a lot of other factors which have a bearing on performance. But the ultimate measure of a Company's performance lies in how profitable it has been. Profit is therefore the most important criterion for performance measurement. The people who have invested capital in the business would like to have a return on their investment, and profit is one such return.

Though everyone has a rough sense of what profit is, in practice, ascertaining the profits of an insurance company is a fairly complex exercise. The Insurance Act, the Companies Act, Accounting Standards and such other standard practices guide the Insurer on how profit is to be measured.

Transactions during a particular period are accounted to understand the result of operations during that period. Such result is expressed in terms of Profit or Loss. If the enterprise had functioned well, its profit, in relation to its capital, will be high. If it has not functioned well, its profit would be meagre or there could be no profit and only a loss. Continued losses year after year would result in the enterprise becoming bankrupt. Therefore the health and well being of the enterprise is measured by the profit it earns.

Besides measuring profit, Accounting also helps understand the financial position of the enterprise as at the end of the accounting period. Thus, cash balances, amounts due from and due to other entities, payments outstanding, nature of assets and liabilities would indicate the state of the enterprise. Since accounting practices are standardised, it also facilitates comparison with similar enterprises in the insurance industry.

Test Yourself 1

Why are the Investors concerned about Profit?

- A. To know what is their return on the Capital Invested
- B. To comply with the law
- C. To assess the Company's ability to repay the loans
- D. To improve market share

2. Learn the important concepts of Accounting

Learning Outcome (b)

Accounting is a domain which is founded on certain principles and concepts that are followed across the world. These concepts lay down how accounts of an enterprise should be prepared and how the profit of that enterprise should be computed. A few of the significant concepts are discussed here:

Realisation Concept

The Realisation Concept is very simple: Do not count your chickens before they are hatched. Any profit to the enterprise is not accounted unless such profit is realised. For instance, if the enterprise buys a piece of land for ₹2 Crores and by the end of the year the market price of the land is ₹3 Crores, the profit of ₹1 Crore is not accounted. If the land had actually been sold in that year, the profit is accounted. But mere increase in market value is not recognised unless it is realised.

On the contrary, losses are recognised even if they are not incurred in the very same year. Consider QRS Company which sold goods on credit to Mr. RST. As per the terms of the credit sale, RST should pay QRS Company the value of the goods on or before 30th June 2023. But before QRS Co. Could close its books in March 2023, it was learnt that RST was defaulting on his payments to creditors. Since the due date for payment by RST is only in June 2023, QRS Company need not worry in March 2023 about the possible default in June 2023. Yet, QRS would make a provision for Doubtful Debts. This is a prudent and conservative approach followed in Accounts: Recognise your loss, when you know it is likely, though it could happen at a later date. But, Do not book your profit, if you have not realised it yet.

Periodicity Concept

This Concept enables measurement of performance for a particular period. In accounting, generally the performance of an enterprise is measured for a period of twelve months. This measurement is not only necessary for the enterprise to evaluate its performance in financial parameters, but also a requirement under various laws like Companies Act, and Income Tax Act.

The Periodicity Concept means all transactions during that particular period are taken into account. It enables matching revenues relating to a particular period with expenses relating to that period.

Accrual Concept

It is for recording of all transactions occurring during a particular period, even if the monetary value of these transactions could take place in the succeeding year.

For example, certain expenses like electricity and rent are incurred, but the payment is made only in the succeeding month. Expenses for the last month of the financial year are not paid in that financial year, but in the succeeding year. Yet such expenses have to be accounted in the same financial year in which they have been incurred.

Similarly, certain income is earned in the current financial year, but received in cash in the succeeding year. Yet, it is accounted in the year in which it has been earned.

Thus the Accrual Concept ensures that all transactions occurring during that year are accounted in the same year, regardless of when the payment is made or income is received.

Consistency Concept

Consistency Concept mandates that the Accounting Policies of an enterprise are followed consistently. If the Accounting Policies change from year to year, no useful comparison could be made between the performance in various years. Consistency in Accounting Policies is required to facilitate comparison of performance year to year. A consistent Accounting Policy would enable all stakeholders to have a true and fair view of the Company's financial position.

In summary, we have discussed four of the major accounting concepts. These are:

1. Realisation Concept: Book loss as soon as you know. Book profit only when you realise it.
2. Periodicity Concept:- Account all transactions relating to the period
3. Accrual Concept: - Expenses incurred for the period and income accrued for the period should be accounted in that period.
4. Consistency Concept:-To the extent possible, the method of accounting should not be changed.

Besides these and other accounting concepts, there are Accounting Rules which are universally followed. These Rules standardise Double Entry book keeping. The Double Entry system of book keeping follows the principle that every transaction has two sides to it. For example,

- When Raju receives money, Raju's asset (cash) goes up. But Raju's liability also goes up because he might have borrowed the money from somebody.
- When Raju pays money to buy Furniture, Raju's asset (cash) comes down. But his Furniture balance goes up.
- Thus, each and every transaction has two sides, a debit and a credit. The Accounting Rules tell us how to account these transactions.

Besides the Accounting Concepts and Accounting Rules that we discussed, there are also Accounting Standards. These translate the Rules and Principles into broad guidelines and procedures for Revenue Recognition, Calculation of Profits, Accounting Investments, Employee Benefits and so on.

In Insurance Accounting, all these Accounting Concepts, Rules and Accounting Standards are followed. Besides these, Insurance Accounting in India should adhere to the relevant stipulations stated in:

Insurance Act, 1938

IRDAI Regulations

Companies Act

SEBI Guidelines

Test Yourself 2

Which concept seeks to account all expenses relating to the financial year?

- A. Accounting Concept
 - B. Consistency Concept
 - C. Accrual Concept
 - D. Periodicity Concept
-

3. Understand how Premium is accounted

Learning Outcome (c)

Insurance Accounts

In Insurance, Profit is calculated as the difference between:

The Sum of Premium and Investment Income And the Sum of Incurred Claims, Commission and Operating Expenses.

We will now examine each element of this Profit calculation:

PREMIUM

Premium represents the income of the Insurance Company from its core operations. There are two important aspects of Accounting Premium Income:

1. Earned Premium

An Insurance Company issues Policies throughout the year. In Life Insurance, the term of these Policies could vary from one year to thirty years and more. In General Insurance, the term of the Policies is usually for one year. The Accounts for the Insurance Company is finalised for a particular period, usually a year. Therefore, only that portion of the premium which relates to the year being accounted should be reckoned as income.

To account the premium relating to that year for which the Accounts is being made, Premium for risks not yet run are deducted. For example, consider an Insurer who might have issued only five Policies during the Financial Year (01.04.2022 to 31.03.2023). Assume that the premium for each Policy is ₹365.

| POLICY NUMBER | PERIOD OF INSURANCE | | PREMIUM | EARNED PREMIUM |
|---------------|---------------------|------------|---------|----------------|
| | FROM | TO | | |
| 1 | 01-04-2022 | 31-03-2023 | 365 | 365 |
| 2 | 01-07-2022 | 30-06-2023 | 365 | 274 |
| 3 | 01-10-2022 | 30-09-2023 | 365 | 182 |
| 4 | 01-01-2023 | 31-12-2023 | 365 | 90 |
| 5 | 31-03-2023 | 30-03-2024 | 365 | 1 |
| TOTAL | | | 1825 | 912 |

The Earned Premium for the year is based on the number of days in the year, for which the risk has been run.

- In the case of Policy 1, the entire risk has been run during the Financial Year 2022-23. Hence, the entire Premium for this Policy is the Earned Premium.
- In the case of Policy 2, the risk is run only from 01.07.2022 to 31.03.2023. The risk has run only for 274 days, and the balance 91 days' risk would be

run only in the succeeding Financial Year 2023-24 (from 01.04.2023 to 30.06.2023). Hence, only ₹274 is accounted as the Earned Premium for the Financial Year 2022-23.

- Similarly, in the case of Policy 3, the risk is run for 182 days from 01.10.2022 to 31.03.2023. Therefore ₹182 is accounted as the Earned Premium for the year 2022-23.
- For Policy 4, the risk is run for 90 days from 01.01.2023 to 31.03.2023. ₹90 is the Earned Premium for this Policy.
- Lastly, for Policy 5, the risk is run just for 1 day on 31.03.2023.

The total premium for the year 2022-23 is ₹1825, whereas the Earned Premium for the year 2022-23 is 912. This is 50% of the Annual Premium. The IRDAI Regulations stipulate that the Premium for the financial year should be allocated on the basis of number of days of risk run as explained above. Alternately, only 50% of the Current Year's Premium could be reckoned as Earned Premium. However, in the case of Hull business, the entire 100% of the Premium is taken as Reserve, and no premium of the Current Year can be accounted as Earned Premium.

While discussing the concept of Earned Premium, it should be noted that just as part of the risk on Policies issued in the Current Year would be spilling over to the Next Year, part of the risk on Policies issued in the Previous Year would be spilling over to the Current Year. Therefore, just as Premium relating to the risk to be run in the Next Year is deducted, Premium for risks on Policies issued in the Previous Year should be added to the extent of the number of days for which the risk is running during the Current Year.

For example, if a Policy has been issued in the year 2021-22, from 01.10.2021 to 30.09.2022, for 182 days the risk would be run during the Financial Year 2021-22. The balance 183 days' risk would be run in the succeeding Financial Year 2022-23. Therefore, in the Financial Year 2022-23, the premium for 183 days (from 01.04.2022 to 30.09.2022) would be added to the Earned Premium for 2022-23. Thus the Earned Premium for a Financial Year is derived by:

Premium for the Current Year

Less: Reserve for Unexpired Risks for the Current Year

Add: Reserve for Unexpired Risks for the Previous Year.

As already discussed, the Reserve for Unexpired Risks is computed either on the number of days for which the risk is to be run in the succeeding year, or at 50% of the Premium for all lines, except Hull, where the Reserve is at 100% of the Premium. The Earned Premium for a year is thus arrived by deducting the Current Year's Reserve for Unexpired Risks from the Current Year Premium and then adding Previous Year's Reserve for Unexpired Risks.

For Example, if the Premium for the year 2021-22 is ₹1000 Crores, and the Premium for the year 2022-23 is ₹1400 Crores, the Earned Premium for 2022-23 would be: (assuming no Premium relates to Marine Hull):

| | | ₹ Crores |
|-------|---|----------|
| | PREMIUM FOR THE YEAR 2022-23 | 1400 |
| Less: | RESERVE FOR UNEXPIRED RISKS FOR 2022-23 | 700 |
| | | 700 |
| Add: | RESERVE FOR UNEXPIRED RISKS FOR 2021-22 | 500 |
| | EARNED PREMIUM FOR 2022-23 | 1200 |

Thus, Earned Premium is the amount of Premium for risks run during the Current Year. It removes Premium for risks which are not run during the Current Year.

While finalising the Accounts, the Earned Premium is derived from Net Premium and hence called Net Earned Premium.

Net Premium is the Premium after adjusting for Reinsurance Ceded and Accepted.

Net Premium is computed as under:

$$\text{Gross Direct Premium} + \\ \text{Reinsurance Premium Accepted} - \\ \text{Reinsurance Premium Ceded}$$

The Reserve for Unexpired Risks is derived from Net Premium. The following example would show how Net Premium is calculated and thereupon the Net Earned Premium is calculated.

| NET EARNED PREMIUM CALCULATION FOR THE CURRENT YEAR | | FIRE | HULL | MOTOR | TOTAL |
|--|--|-------------|------------|-------------|-------------|
| | GROSS DIRECT PREMIUM DURING THE YEAR | 2800 | 200 | 7000 | 10000 |
| ADD | REINSURANCE PREMIUM ACCEPTED DURING THE YEAR | 500 | 100 | 200 | 800 |
| | | 3300 | 300 | 7200 | 10800 |
| LESS | REINSURANCE PREMIUM CEDED DURING THE YEAR | 1200 | 100 | 600 | 1900 |
| | NET PREMIUM FOR THE YEAR | 2100 | 200 | 6600 | 8900 |
| LESS | RESERVE FOR UNEXPIRED RISKS FOR THE CURRENT YEAR | 1050 | 200 | 3300 | 4550 |
| | | 1050 | 0 | 3300 | 4350 |
| ADD | RESERVE FOR UNEXPIRED RISKS FOR THE PREVIOUS YEAR | 1000 | 100 | 3000 | 4100 |
| | NET EARNED PREMIUM FOR THE CURRENT YEAR | 2050 | 100 | 6300 | 8450 |

All Amounts in ₹ Crores.

INVESTMENT INCOME

In Insurance, Premium is received even before the risk commences. Even if claims are to be paid, the events giving rise to claims occur much later and they get settled after some more time. Thus, the Insurance Company collects the premium and retains it for quite some time till claims are paid. This retained money is not kept idle. It is invested in securities and other instruments that earn a considerable income to the Insurance Company. This income is a major source of revenue for the Insurance Company and is reckoned in determining the Profit of the Company.

Test Yourself 3

From the following data, find the Net Earned Premium for the year 2023-24 of ABC Motor Insurance, a Company that underwrites only Motor business:

| | Crores₹ | |
|----------------------|---------|---------|
| | 2023-24 | 2022-23 |
| GROSS DIRECT PREMIUM | 6000 | 4500 |
| REINSURANCE ACCEPTED | 100 | 100 |
| REINSURANCE CEDED | 700 | 400 |

- A. ₹4800 Crores
- B. ₹5400 Crores
- C. ₹4650 Crores
- D. ₹4200 Crores

4. Understand how Claims and other Outgo are accounted

Learning Outcome (d)

INCURRED CLAIMS

We have learnt that under the Accrual Concept of Accounting, all transactions occurring in a year should be accounted while finalising the Accounts for that year. This does not pose a problem if payment for a transaction occurring during the year is made in that year itself. Accounting such transactions is simple, as the outgo is already known. For other transactions, the event would have occurred during the year, but the payment for this event would not have been made during that year. The outgo for such an event is to be accounted. In some cases, the amount of liability that could arise from the event may not be known while finalising the accounts. In such cases, an estimate is made to create a Reserve for such claims which have occurred but not yet paid.

In any Insurance Company, events giving rise to claims keep occurring throughout the year. Events such as Accidents, Fire, Flood, Deaths and Burglary keep happening throughout the year. Where the Insurer had insured such events, they would be liable for the claims.

The financial impact of all such events giving rise to claims should be accounted in that year. All the claims for the events occurring during the Financial Year are not settled in the same Financial Year. The nature of settlement of the claims occurring in a year could vary.

- Some of these claims could be settled in the very same year.
- Other claims would be settled in subsequent years.
- In some cases, claims occurring during the year are not even reported to the Insurance Company in the same year.

Thus Claims could be classified into three types depending on when they are reported and when they are settled.

| NATURE OF CLAIMS SETTLEMENT | A | | B | | C | |
|---|-----------------|---------------------|-----------------|---------------------|-----------------|---------------------|
| | CURRENT YEAR | SUBSEQUENT YEARS | CURRENT YEAR | SUBSEQUENT YEARS | CURRENT YEAR | SUBSEQUENT YEARS |
| DATE OF OCCURRENCE | ✓ | | ✓ | | ✓ | |
| DATE OF REPORTING TO THE INSURANCE COMPANY | ✓ | | ✓ | | | ✓ |
| DATE OF PAYMENT OF THE CLAIM BY THE INSURANCE COMPANY | ✓ | | | ✓ | | ✓ |

All the three types of claims have to be accounted:

- “A” type claims are those which are intimated in the same financial year and settled in the same financial year. The financial impact for these claims are fully known and accounted as the payment has already been made.
- “B” type claims are known to have occurred, as they are reported, but the extent of final payment would not be known. Still a Reserve is created for the estimated amounts of losses to be paid for these claims in subsequent years.
- “C” type claims are not even known as they are not reported to the Insurance Company. These type of claims are called “Incurred But Not Reported” (IBNR). A Reserve for these kind of claims is also made with the assistance of experts called Actuaries.

All events resulting in claims result in a financial outgo for the Insurance Company. Even if the claim is not payable, there could be other associated expenses relating to the claim such as Loss Assessor’s Fees, Legal Fees and the like. Thus, apart from accounting A type claims, which is simple, since the payment is already made, Reserve for B and C type claims are created, where the payments would be made only in subsequent years. The Reserve for these claims are called Reserve for Outstanding Claims.

Therefore Claims Outgo in a year would not only relate to Claims Paid (as in type A claims) but also Reserve for Outstanding Claims (for type B and type C claims). The sum of these two elements is called Incurred Claims.

Thus, Incurred Claims in the very first year of operations for an Insurance Company would be:

Claims Paid during the Current Year

Add: Reserve for Outstanding Claims for the Current Year.

However, from the second year of operations, not only would claims be paid for events occurring in that year, but also for those claims where the events had occurred in the previous years. These payments relating to the Previous Years should not be included in the Current Year’s Accounts. Therefore, what is added as Reserve for Outstanding Claims in the Previous Year is deducted from the Payments for the Current Year.

Thus, Incurred Claims from the second year of operations for an Insurance Company would be:

Claims Paid during the Current Year

Add: Reserve for Outstanding Claims for the Current Year

Less: Reserve for Outstanding Claims for the Previous Year

Let us now consider Great Guard Insurance which commenced operations on 01.04.2022.

For the year 2022-23, Incurred Claims for Great Guard is calculated thus:

| GREAT GUARD INSURANCE COMPANY | | ₹ Crores |
|-------------------------------|---|----------|
| | Claims Paid During the Year 2022-23 | 800 |
| Add: | Reserve for Outstanding Claims for the year 2022-23 | 1200 |
| | Incurred Claims for the year 2022-23 | 2000 |

For the next year, 2023-24, Incurred Claims is calculated thus:

| | | ₹ Crores |
|-------|---|----------|
| | Claims Paid During the Year 2023-24 | 1800 |
| Add: | Reserve for Outstanding Claims for the year 2023-24 | 2200 |
| Less: | Reserve for Outstanding Claims for the year 2022-23 | 1200 |
| | Incurred Claims for the year 2023-24 | 2800 |

Thus, Incurred Claims for each year is calculated. While finalising the Accounts, Incurred Claims is calculated on Net Basis. Net Incurred Claims would mean,

Incurred Claims on Direct Business +
Incurred Claims on Reinsurance Accepted -
Incurred Claims on Reinsurance Ceded.

COMMISSION

Commission is the remuneration and incentive paid to Agents, Brokers and other Intermediaries who place business with the Insurance Companies. These are insurance distributors who source insurance business from customers and place them with the insurance companies. These distributors are compensated for their efforts. This compensation is called Commission.

Commission is generally an item of expense for the Insurance Company. If the business is received from the Direct Customer, the Commission is paid to the Agent or to the Intermediary such as Brokers. If the business is received from other Insurers for Reinsurance Business Accepted, the Commission is paid to these Insurers who place their Reinsurance with this Insurance Company.

But if this Insurance Company places its Reinsurance with another Reinsurer, it is called Reinsurance Business Ceded. For such Reinsurance Business Ceded, the Reinsurer pays a Commission to this Insurance Company. Hence, for the Insurance Company which places Reinsurance business (Reinsurance Business Ceded), Commission is received from the Reinsurer. Such Commission received is not an expense but an income.

In finalising the Accounts, Commission Paid for Direct Business and Commission Paid for Reinsurance Business Accepted is taken as an Expense and Commission

Received on Reinsurance Ceded is taken as Income. These three elements are aggregated to arrive at Net Commission.

$$\text{Net Commission} = \text{Commission on Direct Business} + \\ \text{Commission on Reinsurance Business Accepted} - \\ \text{Commission on Reinsurance Business Ceded}$$

OPERATING EXPENSES

Apart from procurement expenses like Commission, an Insurer has to spend on Salaries, Rent, IT Infrastructure and such other expenses. These also need to be deducted from the sum of Premium and Investment Income.

Test Yourself 4

From the following data calculate the Net Incurred Claims:

Incurred Claims on Direct Business ₹4800 Crores

Incurred Claims on Reinsurance Accepted ₹ 200 Crores

Incurred Claims on Reinsurance Ceded ₹1000 Crores

- A ₹ 6000 Crores
- B ₹ 4000 Crores
- C ₹ 5600 Crores
- D ₹ 5000 Crores

5. Understand how Profit of an Insurance Company is calculated

Learning Outcome (e)

FINALISATION OF ACCOUNTS

Once the Net Earned Premium, Net Incurred Claims, Net Commission, Operating Expenses and Investment Income are calculated, Net Profit of the Company is worked out based on the formula already discussed:

| |
|---|
| NET EARNED PREMIUM FOR THE CURRENT YEAR |
| INVESTMENT INCOME |
| TOTAL A |
| NET INCURRED CLAIMS FOR THE CURRENT YEAR |
| NET COMMISION FOR THE CURRENT YEAR |
| OPERATING EXPENSES FOR THE YEAR |
| TOTAL B |
| PROFIT= A-B |

After calculating the Profit for the Year, the Balance Sheet is also prepared as on the last date of the Year. This Balance Sheet gives the financial position of all assets and liabilities as at the end of the Year.

The Accounts so prepared is Audited by the Statutory Auditors and presented at the Board Meeting and at the Annual General Body Meeting of the Company for approval by the shareholders of the Company.

Test Yourself 5

From the following data calculate the Profit for the Company:

| | ₹ Crores |
|---|----------|
| NET EARNED PREMIUM FOR THE CURRENT YEAR | 8000 |
| NET INCURRED CLAIMS FOR THE CURRENT YEAR | 6600 |
| NET COMMISION FOR THE CURRENT YEAR | 200 |
| OPERATING EXPENSES FOR THE YEAR | 1900 |
| INVESTMENT INCOME | 900 |

- A ₹ 500 Crores Profit
- B ₹ 200 Crores Profit
- C ₹ 700 Crores Loss
- D ₹ 200 Crores Loss

Answers to test yourself

Answer to Test Yourself 1

Correct Answer is A.

Investors would be concerned about the ability of the enterprise to repay the Capital. If a Company is not earning Profits, it is earning losses. Continued losses will erode the Capital of the Company and make it bankrupt. The Investors therefore are keen that the Company earn Profits.

Answer to Test Yourself 2

Correct Answer is C.

Answer to Test Yourself 3

Correct Answer is A.

Net Premium for the current year is ₹5400 Crores ($6000+100-700$). Net Premium for previous year is ₹4200 Crores. ($4500+100-400$).

| | |
|---|----------------------|
| Net Premium for the Current Year | = 5400 |
| Add: Reserve for Unexpired Risks for Current Year all Motor) | = 2700 (50% of 5400; |
| Less: Reserve for Unexpired Risks for Previous Year all Motor) | = 2100 (50% of 4200; |
| Net Earned Premium for the Current Year 2100) | = 4800 (5400 -2700 + |

Answer to Test Yourself 4

Correct Answer is B.

$4800+200-100$

Answer to Test Yourself 5

Correct Answer is D.

$(8000+900)- (6600+200+1900)$

Summary:

Accounts of a Company provides a valuable measure of the performance of the Company. Established Concepts and Principles govern accounting practices all across the world. This facilitates comparison of performance between different companies in the same industry, and also across industries. In Insurance Companies, the net effect of income and outgo is calculated with working of Net Earned Premium, Net Incurred Claims and Net Commission. Method of arriving at Profit of an Insurance Company is also laid down by law.

Self-examination questions

Question 1

The Statement of Assets and Liabilities of a Company as at the end of the financial year is called:

- A Audited Accounts
- B Revenue Account
- C Balance Sheet
- D Profit and Loss Account

Question 2

Lakshmi Insurance starts its operations in 2023-24. From the following data, find its Net Earned Premium.

| LAKSHMI INSURANCE 2023-24 | PREMIUM IN ₹ Crores | | | |
|---------------------------|---------------------|------|-------|-------|
| | FIRE | HULL | MOTOR | TOTAL |
| GROSS DIRECT PREMIUM | 1000 | 800 | 2500 | 4300 |
| REINSURANCE ACCEPTED | 200 | 100 | 100 | 400 |
| REINSURANCE CEDED | 500 | 300 | 200 | 1000 |

- A ₹3700 Crores
- B ₹1850 Crores
- C ₹1550 Crores
- D ₹2150 Crores

Question 3

If the Direct Claims Paid for the Current Year is ₹12000 Crores, the Reserve for Outstanding Claims at the end of the Current Year is ₹18000 Crores, and the Reserve for Outstanding Claims at the end of the Previous Year is ₹16000 Crores, what is the Gross Incurred Claims for the Current Year?

- A ₹46000 Crores
- B ₹30000 Crores
- C ₹10000 Crores
- D ₹14000 Crores

Question 4

Ever Pay Insurance pays a Commission of ₹2000 Crores on the Direct business procured. On the Reinsurance Ceded, it receives a Commission of ₹400 Crores. On the Reinsurance Accepted, it pays a Commission of ₹100 Crores. What is the Net Commission.

- A ₹1700 Crores
 - B ₹2500 Crores
 - C ₹2300 Crores
 - D ₹1500 Crores
-

Answers to self-examination questions:

Answer to Question 1:

The correct option is C.

Answer to Question 2:

The correct option is C.

| LAKSHMI INSURANCE 2023-24 | PREMIUM IN ₹ Crores | | | |
|--|----------------------------|-------------|--------------|--------------|
| | FIRE | HULL | MOTOR | TOTAL |
| GROSS DIRECT PREMIUM | 1000 | 800 | 2500 | 4300 |
| REINSURANCE ACCEPTED | 200 | 100 | 100 | 400 |
| REINSURANCE CEDED | 500 | 300 | 200 | 1000 |
| NET PREMIUM FOR 2023-24 | 700 | 600 | 2400 | 3700 |
| RESERVE FOR UNEXPIRED RISKS 2023-24 | 350 | 600 | 1200 | 2150 |
| NET EARNED PREMIUM FOR 2023-24 | 350 | 0 | 1200 | 1550 |

Answer to Question 3:

The correct option is D

$12000+18000-16000$.

Answer to Question 4:

The correct option is A.

$2000+100-400$

Introduction: This Chapter explains what is Risk; which of the Risks are insurable; and how Insurance works

Risk: An Adverse Deviation from an Expected Outcome

There are two types of Risks
Pure Risks and Speculative Risks



WHAT IS INSURANCE?

- Insurance is a contract
- whereby the Insurer,
- for a Consideration called Premium
- Agrees to Make Good the Loss
- Suffered by the Insured
- Arising out of an Insured Peril

HOW DOES INSURANCE WORK?

INSURANCE WORKS ON THE BASIS OF LAW OF LARGE NUMBERS

LAW OF LARGE NUMBERS

INSURANCE WORKS ON THE BASIS OF LAW OF LARGE NUMBERS

SIMPLY STATED, LAW OF LARGE NUMBERS SAYS:
AS THE NUMBER OF TRIALS INCREASES, THE RELIABILITY OF THE PREDICTION INCREASES.
BY STUDYING A VAST AMOUNT OF PAST DATA, INSURERS PREDICT PROBABILITY OF FUTURE LOSSES

WHY DO WE NEED INSURANCE?



Chapter Two: This Chapter explains what kind of Risks are Insurable. The relationship between Risk, Peril and Hazard is also explained and the Classification of Risk is discussed

Characteristics of an Insurable Risk

HOMOGENEITY

INDEPENDENCE AMONG EXPOSURE UNITS

CALCULABILITY

DEFINITE AS TO TIME, PLACE AND CAUSE

FORTUITOUS

FEASIBILITY

NOT CATASTROPHIC

WHAT IS A PERIL?

A PERIL IS SOMETHING THAT CAUSES A LOSS. EXAMPLES OF PERILS ARE:



WHAT IS A HAZARD?

A HAZARD IS
SOMETHING THAT
INCREASES THE
PROBABILITY OF LOSS

OR INCREASES THE
AMOUNT OF LOSS

RELATIONSHIP BETWEEN RISK, PERIL AND HAZARD

- WHAT IS THE RISK TO BE COVERED?
- WHAT IS THE PERIL TO BE COVERED?
- THE HAZARDS RELATING TO THE RISK AND THE PERIL SHOULD BE ASCERTAINED
- THE RATING IS DECIDED ON THE DEGREE OF HAZARD IN RELATION TO THE RISK AND THE PERIL

RISK CLASSIFICATION

- RISK IS CLASSIFIED ACCORDING TO THE DEGREE OF HAZARD FOR EACH RISK

IN THIS CHAPTER, THE TWO ELEMENTS THAT DETERMINE THE BURNING COST ARE STUDIED- FREQUENCY AND SEVERITY.

HOW PRICE IS DETERMINED FROM BURNING COST IS ALSO DISCUSSED

Frequency = $\frac{\text{Total number of losses in a year}}{\text{Total number of exposure units}}$

Severity = $\frac{\text{Total amount of losses in a year}}{\text{Total number of losses in a year}}$

- Burning Cost = Frequency x Severity

$$\text{Burning Cost} = \frac{\text{Total amount of losses in a year}}{\text{Total number of exposure units}}$$

COST TO PRICE

- CALCULATE FREQUENCY
- CALCULATE SEVERITY
- CALCULATE BURNING COST
- PRICE IS CALCULATED FROM BURNING COST BY THIS FORMULA:

$$\text{Premium} = \frac{\text{BURNING COST}}{(1 - \% \text{ of Cost Elements})}$$

COST TO PRICE IS NOT JUST FORMULA.
MANY FACTORS SHOULD BE RECKONED:

- TRENDS
- PRODUCT DESIGN
- DEDUCTIBLES AND OTHER TERMS OF COVER
- MACRO ECONOMIC VARIABLES
- LOSS DEVELOPMENT FACTOR

PRINCIPLES OF INSURANCE- UTMOST GOOD FAITH

Why Utmost Good Faith?

Insurance involves Risk Transfer. The Insured Customer knows much more about the Risk than the Insurer. To enable the Insurer to evaluate the Risk properly, the Insured Customer should disclose all material facts to the Insurer.



GOOD FAITH AND UTMOST GOOD FAITH



GOOD FAITH

IN GOOD FAITH CONTRACTS,
ANSWERS SHOULD BE TRUTHFUL.
NO DISCLOSURE IS EXPECTED FOR
QUESTIONS NOT ASKED

UTMOST GOOD FAITH

INSURANCE IS A CONTRACT OF
UTMOST GOOD FAITH. THE
INSURED SHOULD ANSWER ALL
QUESTIONS TRUTHFULLY. HE
SHOULD ALSO DISCLOSE ALL
MATERIAL FACTS, EVEN WITHOUT
BEING ASKED

WHAT ARE MATERIAL FACTS?

MATERIAL FACTS ARE THOSE THAT ENABLE AN INSURER TO DECIDE:

WHETHER TO ACCEPT A RISK OR NOT



AND IF ACCEPTING,

ON WHAT RATES AND TERMS

IMPLICATIONS FOR BREACH OF DUTY OF UTMOST GOOD FAITH

POLICY COULD BE VOID OR VOIDABLE, DEPENDING ON TERMS OF THE POLICY

IN LIFE INSURANCE, SECTION 45 LAYS DOWN INSURER'S CHOICE OF ACTION

WHY INSURABLE INTEREST?



ONLY THOSE WHO LOST
SHOULD BE
COMPENSATED.



IF INSURABLE INTEREST IS
NOT NECESSARY, THOSE
WHO DID NOT LOSE COULD
GET INDEMNIFIED.



THIS COULD RESULT IN
MORE AND MORE LOSSES
HAPPENING

HOW DOES INSURABLE INTEREST ARISE?

OWNERSHIP

RELATIONSHIP

BAILMENT

CREDIT

TENANCY

PARTNERSHIP

PRINCIPAL-CONTRACTOR

INSURER

INDEMNITY

WHAT IS INDEMNITY?

INDEMNITY IS PUTTING THE INSURED

IN THE SAME FINANCIAL POSITION

AS HE WAS

PRIOR TO THE LOSS

HOW IS INDEMNITY COMPUTED?



BASED ON:

PLACE AND DATE OF LOSS

MARKET PRICE

VALUE ADDITION UPTO POINT OF LOSS

AGE AND USAGE

ACTUAL AMOUNT INCURRED FOR REPAIRS

LIMITS TO INDEMNITY

- DEDUCTIBLES
- UNDERINSURANCE
- SALVAGE
- POLICY LIMITS

INSURANCE CONTRACTS WHICH ARE NOT INDEMNITY BASED

- LIFE INSURANCE
- CRITICAL ILLNESS BENEFIT
- PERSONAL ACCIDENT INSURANCE
- PARAMETRIC INSURANCE
- MARINE INSURANCE

SUBROGATION

SUBROGATION IS

THE TRANSFER OF RIGHTS
OF THE INSURED

AGAINST THE THIRD PARTY

WHO CAUSED THE LOSS

TO THE INSURER

HOW DOES SUBROGATION ARISE?

ONLY FOR CONTRACTS OF INDEMNITY

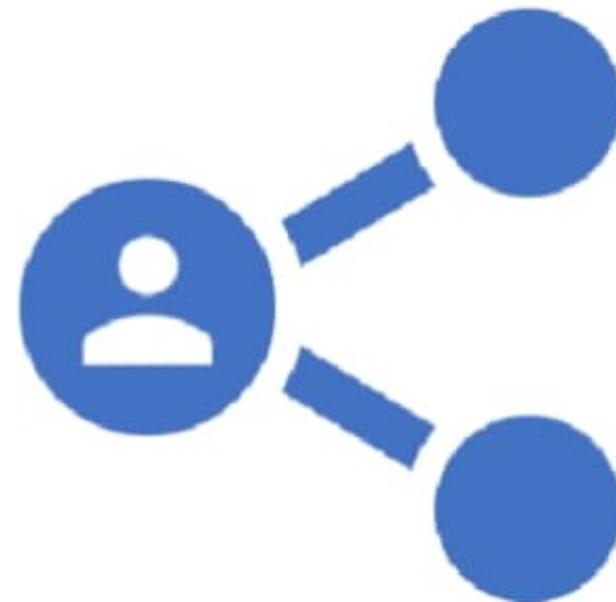
HENCE, NOT FOR LIFE INSURANCE CONTRACTS

ARISES UNDER

- TORT
- CONTRACT
- STATUTORY RIGHT
- SUBJECT MATTER OF INSURANCE

CONTRIBUTION

- IF MORE THAN ONE INSURANCE CONTRACT INDEMNIFIES THE SAME LOSS, THE INSURER NEED TO PAY ONLY THEIR PROPORTIONATE SHARE OF THE LOSS
- THIS IS CALLED CONTRIBUTION
- CONTRIBUTION WILL NOT APPLY FOR BENEFIT POLICIES



RULES FOR CONTRIBUTION

- TWO OR MORE POLICIES OF INDEMNITY
- THEY COVER COMMON INTEREST
- THEY COVER A COMMON SUBJECT MATTER
- THEY COVER A COMMON PERIL
- THEY ARE LIABLE FOR THE LOSS

PROXIMATE CAUSE

- ACTIVE EFFICIENT CAUSE
- WHICH SETS IN MOTION
- A TRAIN OF EVENTS
- WHICH BRINGS ABOUT A RESULT
- WITHOUT A NEW AND INDEPENDENT SOURCE

This Chapter would discuss the legal framework for Insurance.

NECESSARY FOR A INSURANCE IS A CONTRACT.
ALL THE ELEMENTS CONTRACT ARE NECESSARY
FOR THE INSURANCE CONTRACT TOO. THESE
INCLUDE:



INSURANCE ACT AND IRDAI ACT ARE THE PILLARS OF THE LEGAL FRAMEWORK

INSURANCE ACT, 1938 GOVERNS VARIOUS FACETS OF INSURANCE OPERATIONS

INSURANCE REGULATORY AND DEVELOPMENT AUTHORITY OF INDIA ACT, 1999 CONSTITUTES AND EMPOWERS THE REGULATORY FRAMEWORK FOR INSURANCE

VARIOUS OTHER LAWS AND STATUTES ARE ALSO RELEVANT FOR INSURANCE

- ❖ INDIAN CONTRACT ACT
- ❖ COMPANIES ACT
- ❖ MARINE INSURANCE ACT
- ❖ MOTOR VEHICLES ACT
- ❖ EMPLOYEE'S COMPENSATION ACT
- ❖ CONSUMER PROTECTION ACT
- ❖ COMMON LAW
- ❖ LAW OF TORTS

BURDEN OF PROOF

- IN NAMED POLICIES, INSURED SHOULD PROVE THAT THE LOSS HAD OCCURRED DUE TO AN INSURED PERIL
- IN ALL RISK POLICIES, INSURED SHOULD PROVE THAT THE LOSS HAD OCCURRED DUE TO AN ACCIDENTAL CAUSE
- IF THE INSURER REJECTS THIS PROOF, THE BURDEN SHIFTS TO THE INSURER TO PROVE THAT THE LOSS IS DUE TO AN EXCLUDED CAUSE



INTERPRETATION OF CONTRACTS

- IN CASE OF AMBIGUITY IN AN INSURANCE CONTRACT, THE INTERPRETATION FAVOURABLE TO THE INSURED WOULD BE APPLIED
- REASONABLE EXPECTATIONS OF THE CUSTOMER SHOULD BE HONOURED

WHAT IS UNDERWRITING? WHY IS UNDERWRITING IMPORTANT?



UNDERWRITING IS THE
TASK OF EVALUATING A
RISK, SELECTING A RISK
FOR ACCEPTANCE, AND
ASSUMING THE RISK ON
SPECIFIC TERMS



IF UNDERWRITING IS NOT
PERFORMED WITH
DILIGENCE, THE INSURER
COULD ASSUME MORE
LIABILITY THAN THEY
EXPECTED

UNDERWRITING: PHASE ONE: EVALUATION

- BEGINS WITH COLLECTION OF INFORMATION ON RISK FEATURES
- THE NATURE OF RISK, PERIL AND HAZARDS WOULD GUIDE THE UNDERWRITER IN DETERMINING THE LOSS PROBABILITY FOR THE EXPOSURE

UNDERWRITING: PHASE TWO: SELECTION

RULES OF SELECTION:

- NEED TO WRITE A LARGE VOLUME OF BUSINESS
- AVOID BAD BUSINESS
- RESPOND TO MARKET WITHOUT COMPROMISING PROFITABILITY

UNDERWRITING: PHASE ONE: ACCEPTANCE

- DECISIONS TO BE MADE ON
 - TERMS
 - PRICE
 - REINSURANCE SUPPORT
 - MARKET DYNAMICS

UNDERWRITING LANDMINES

- ADVERSE SELECTION
- CONVERGENCE
- ACCUMULATION
- COMPLEXITY
- UNDERPRICING

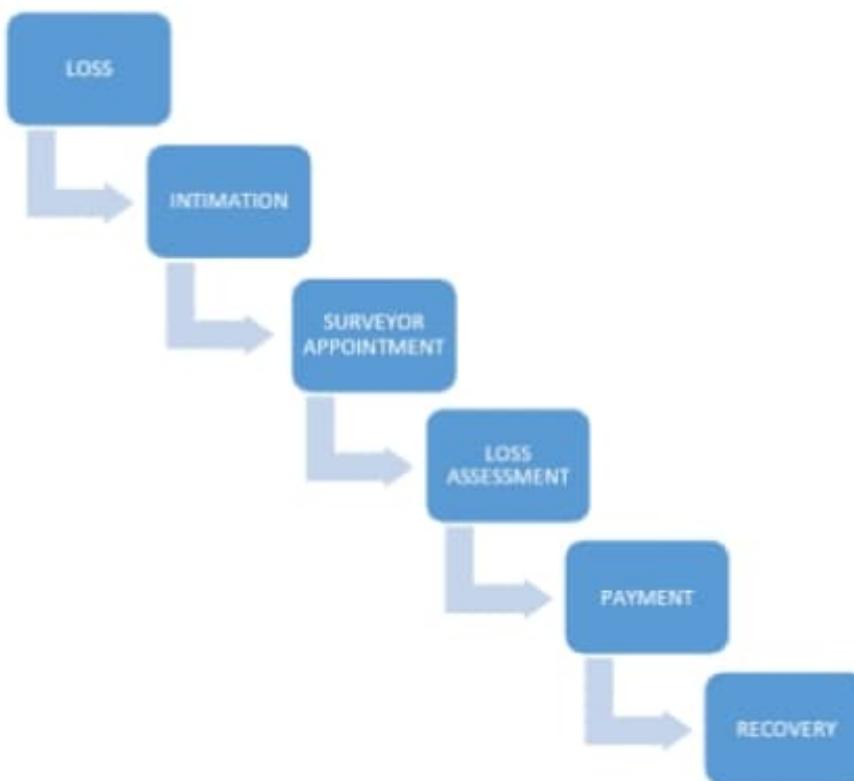
UNDERWRITING FRAMEWORK

- UNDERWRITING FRAMEWORK IS THE ARCHITECTURE FOR UNDERWRITING OPERATIONS
- IT COMPRISES
 - ACCEPTANCE LIMITS
 - MANUALS
 - GUIDES
 - TECHNOLOGY PROCESSES
 - APPLICATIONS
 - AUDITS

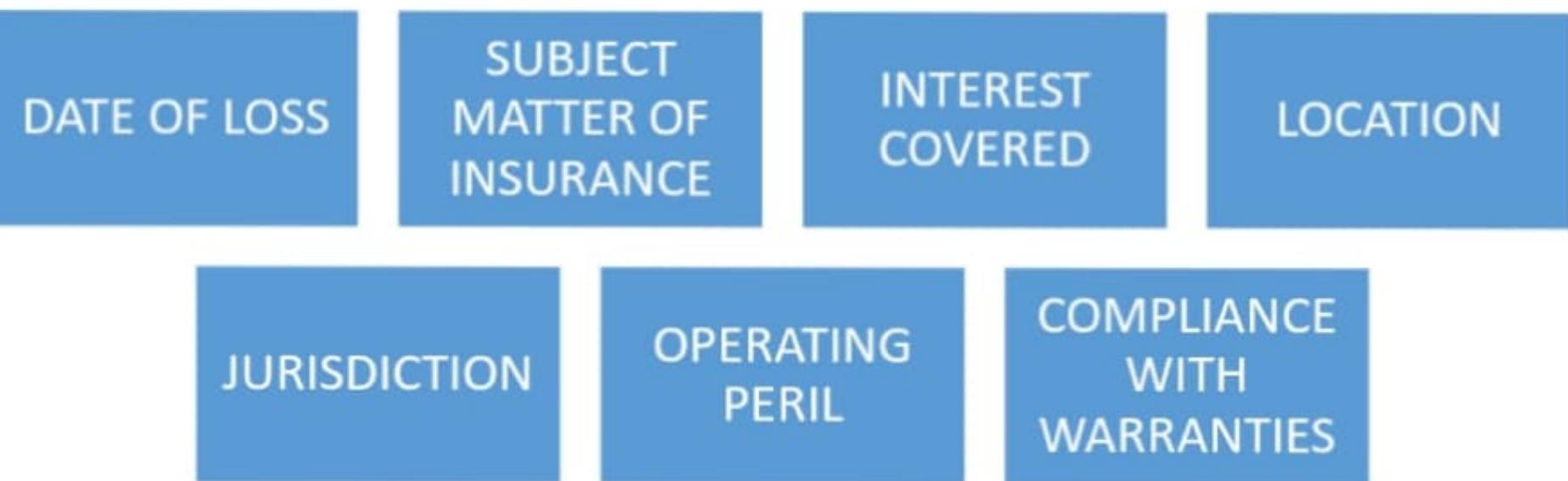
THIS CHAPTER WOULD EXPLAIN HOW ADMISSIBILITY AND QUANTUM PAYABLE ARE DETERMINED IN CLAIMS

- OPERATION OF AN INSURED EVENT RESULTS IN A LOSS
- THIS TRIGGERS A CLAIM UNDER THE POLICY
- CLAIM SETTLEMENT MARKS THE REDEMPTION OF THE PROMISE MADE BY THE INSURER TO THE INSURED TO COMPENSATE A LOSS

STAGES OF CLAIMS PROCESS



ADMISSIBILITY DEPENDS ON:



QUANTUM DEPENDS ON

SUM INSURED

DEPRECIATION

UNDERINSURANCE

DEDUCTIBLES

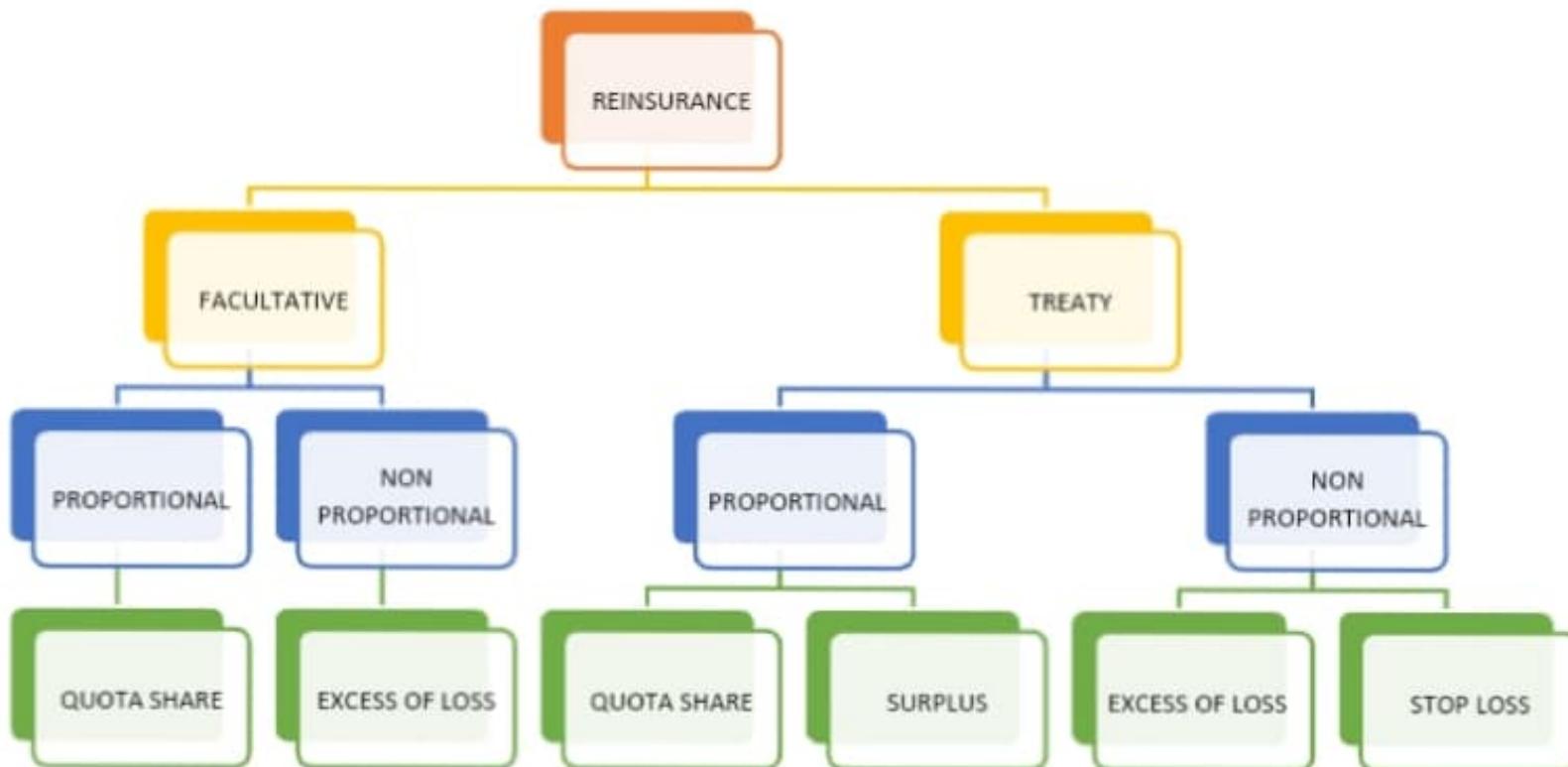
SALVAGE

OTHERS

WHY REINSURANCE?

- REINSURANCE PROVIDES:
 - PROTECTION
 - STABILITY
 - CAPITAL
 - RATING COMPLIANCE
 - EXPERTISE
 - DIVERSIFICATION

TYPES AND METHODS OF REINSURANCE



FACULTATIVE PLACEMENT AND TREATY

| FACULTATIVE PLACEMENT | TREATY |
|-----------------------------|--|
| NEED BASED | MORE PERMANENT |
| INSURER CAN REINSURE OR NOT | INSURER HAS NO CHOICE. THEY SHOULD CEDE ALL RISKS COMING UNDER THE SCOPE OF THE TREATY |
| REINSURER CAN ACCEPT OR NOT | REINSURER HAS NO CHOICE. THEY SHOULD ACCEPT ALL SUCH RISKS OFFERED FOR REINSURANCE |
| PROVIDES FLEXIBILITY | PROVIDES CERTAINTY AND CONTINUITY |
| TIME CONSUMING | INSURER WOULD HAVE TO SHARE PROFITABLE BUSINESS |

PROPORTIONAL REINSURANCE

- QUOTA SHARE TREATIES
 - A FIXED PERCENTAGE OF THE PREMIUM AND CLAIMS IS SHARED WITH THE REINSURER
- SURPLUS TREATIES
 - RISKS EXCEEDING A LIMIT, CALLED RETENTION, ARE CEDED TO THE REINSURER.
 - THE PREMIUM AND LOSS ARE SHARED IN THE PROPORTION OF RETENTION TO SURPLUS

NON PROPORTIONAL REINSURANCE

EXCESS OF LOSS REINSURANCE



REINSURER PAYS ONLY IF THE LOSS EXCEEDS A CHOSEN LIMIT, CALLED THE DEDUCTIBLE



THE MAXIMUM AMOUNT THE REINSURER PAYS IS CALLED COVER LIMIT



THERE ARE TWO KINDS OF EXCESS OF LOSS:

RISK X/L WHERE THE COVERAGE IS FOR EACH AND EVERY RISK FOR EACH AND EVERY OCCURRENCE

RISK X/L COVERS ALL PERILS COVERED BY THE DIRECT INSURER

CAT X/L COVERS ONLY CATASTROPHIC PERIL

CAT X/L IS FOR LOSSES TO MULTIPLE RISKS CAUSED BY ONE OCCURRENCE

STOP LOSS

- STOP LOSS IS ANOTHER METHOD OF NON PROPORTIONAL REINSURANCE
- DESIGNED TO PROTECT INSURER'S PORTFOLIO
- IF THE CUMULATIVE LOSSES IN A PORTFOLIO FOR A YEAR EXCEEDS A GIVEN LIMIT OR A GIVEN INCURRED LOSS RATIO, THE STOP LOSS REINSURER PAYS UPTO A SPECIFIED LIMIT

IN THIS CHAPTER, WE WILL LEARN THE CONCEPTS AND PRINCIPLES OF INSURANCE ACCOUNTS

| | |
|---------------------|--|
| REALISATION CONCEPT | BOOK LOSSES IMMEDIATELY. BOOK PROFITS ONLY WHEN REALISED |
| PERIODICITY CONCEPT | ACCOUNT ALL TRANSACTIONS RELATING TO THE PERIOD |
| ACCRAUL CONCEPT | EXPENSE INCURRED AND INCOME ACCRUED IN THE YEAR SHOULD BE ACCOUNTED IN THE SAME YEAR |
| CONSISTENCY CONCEPT | METHOD OF ACCOUNTING SHOULD NOT BE CHANGED |

INSURANCE ACCOUNTS SHOULD ADHERE TO

Insurance Act, 1938

IRDAI Regulations

Companies Act

SEBI Guidelines



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CHAPTER 11: INSURANCE ACCOUNTS



NET EARNED PREMIUM

NET PREMIUM

= GROSS DIRECT PREMIUM +
REINSURANCE PREMIUM ACCEPTED -
REINSURANCE PREMIUM CEDED

NET EARNED PREMIUM

= NET PREMIUM FOR THE CURRENT YEAR -
RESERVE FOR UNEXPIRED RISKS FOR THE CURRENT YEAR +
RESERVE FOR UNEXPIRED RISKS FOR THE PREVIOUS YEAR

NET INCURRED CLAIMS

INCURRED CLAIMS = CLAIMS PAID DURING THE YEAR +
RESERVE FOR OUTSTANDING CLAIMS FOR THE CURRENT YEAR -
RESERVE FOR OUTSTANDING CLAIMS FOR THE PREVIOUS YEAR

NET INCURRED CLAIMS = INCURRED CLAIMS ON DIRECT BUSINESS +
INCURRED CLAIMS ON REINSURANCE ACCEPTED -
INCURRED CLAIMS ON REINSURANCE CEDED

NET COMMISSION

NET COMMISSION = COMMISSION ON DIRECT BUSINESS +

COMMISSION ON REINSURANCE BUSINESS ACCEPTED -

COMMISSION ON REINSURANCE BUSINESS CEDED

PROFIT FOR THE YEAR

NET EARNED PREMIUM FOR THE CURRENT YEAR

INVESTMENT INCOME

TOTAL A

NET INCURRED CLAIMS FOR THE CURRENT YEAR

NET COMMISSION FOR THE CURRENT YEAR

OPERATING EXPENSES FOR THE YEAR

TOTAL B

PROFIT= A-B



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CHAPTER 11: INSURANCE ACCOUNTS

6 Education for
Financial
Education &
Training