

B.Com 2nd Semester CBCS (Honours)

Under Gauhati University

Sub: INSURANCE AND RISK MANAGEMENT

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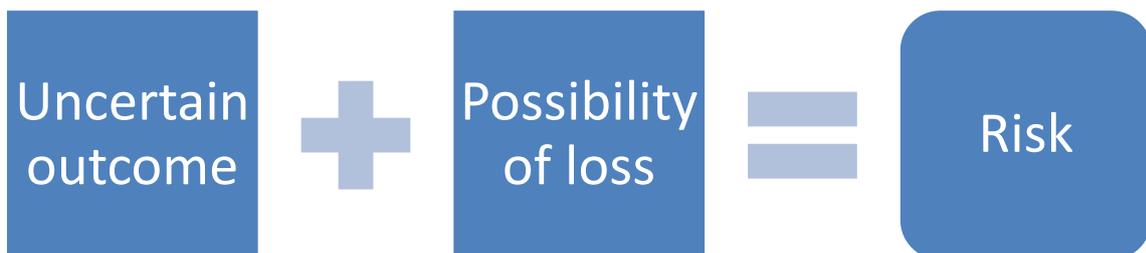
UNIT 1

Topics to learn

- CONCEPT OF RISK
- TYPES OF RISK
- MANAGING RISK
- SOURCES AND MEASUREMENT OF RISK
- RISK EVALUATION AND PREDICTION
- RISK RETENTION AND TRANSFER
- DISASTER RISK MANAGEMENT

• CONCEPT OF RISK

The term risk is generally used to refer to a situation where the outcome is uncertain and there is a possibility of loss.



The loss that occurs is random in nature and not meant to happen intentionally. It occurs by chance and may happen to anyone. It is uncertain and unpredictable by anybody; hence risk can also be defined as the inability to accurately predict the effects of future events.

In insurance, the term risk is often associated with the **peril** which may cause the loss.

The word '**peril**' is used to describe **any event such as fire, flood, etc. which could lead to economic loss.**

• **TYPES OF RISK**

Risks can be classified as follows:

1. Financial risk and Non-Financial risk
2. Systematic risk and Unsystematic Risk
3. Individual Risk and Group Risk
4. Static Risk and Dynamic Risk
5. Pure and Speculative Risk

<p>Where the impact of the risk is concerned with <u>financial loss</u> and where the risk can be expressed in <u>monetary terms</u>.</p> <p>Types:</p> <ul style="list-style-type: none"> • Market risk • Credit risk • Liquidity risk • Operational risk • Legal risk • Regulatory risk 	<p><< Financial risk</p>	<p>Non-financial risk >></p>	<p>Where the impact of the risk is not concerned with <u>financial loss</u> and where the risk cannot be expressed in <u>monetary terms</u>.</p>
<p>This risk is present within the system. This risk <u>applies to the entire market segment</u>. E.g. risk of inflation in the market, risk of government collapse etc.</p>	<p><< Systematic risk</p>	<p>Unsystematic risk >></p>	<p>It is unique or <u>specific to a particular company or particular industry</u>. E.g. strikes, lawsuits, non-compliance of corporate governance norms etc. which are specific to a company.</p>
<p>This risk is <u>confined to individual identities or small groups</u>. E.g. Risk of loss by theft, robbery,</p>	<p><< Individual risk</p>	<p>Group risk >></p>	<p>Group risk or fundamental risk affects the economy or its participants. They affect most of</p>

accident, fire etc.			<u>the social segments.</u>
Risks connected with losses caused by the irregular action of nature or by the mistakes and misdeeds of human beings. These arise even when there is no change in the economic environment.	<< Static Risk	Dynamic Risk >>	These risks cause losses due to changes in the economy or the environment.
In this type of risk the only <u>two possible outcomes</u> are : 1/loss or 2/no loss. There is <u>no gain to the individual.</u> E.g. if a person has insured his property against fire, the insurance company will indemnify only if he suffers loss caused to his property. In case of no damage or no loss, the company will pay him nothing. Types: <ul style="list-style-type: none"> • Personal risk • Property risk • Liability risk 	<< Pure Risk	Speculative Risk >>	In this type of risk, the <u>two possible outcomes</u> are: 1/ <u>either a profit or</u> 2/ <u>loss</u> E.g. when investment in stock market is made by purchasing shares of companies with the purpose of selling, the price of shares may fall or rise and accordingly the investor who bought the shares will gain or lose when he will try to sell the same shares.

• **MANAGING RISK**

To a common person, risk denotes the possibility of meeting danger, suffering, loss etc. Risk is present in the lives of individuals as well as in different organisations, businesses and institutions.

The process of managing this risk is called Risk Management. A risk management plan includes strategies and techniques for recognising and confronting these threats. **From the point of view of an organisation, risk management can be defined as a managerial function concerned with the protection of the firm's assets, earning or profits, legal**

liabilities and personnel against financial losses that may result from fortuitous events, i.e. accidental happenings.

The risk management process involves the following steps:

1. Identify all potential and significant risks.
2. Evaluate the cause, frequency and severity of losses.
3. Develop and select methods to manage the risk.
4. Implement the method chosen.
5. Monitor performance on an on-going basis.

- **Risk Management Approaches**

1. Risk Avoidance:

While the complete elimination of risk is rarely possible, risk avoidance strategy is designed to deflect as many threats as possible in order to avoid the costly and disruptive consequences of a damaging event.

2. Risk Reduction:

Companies are sometimes able to reduce the amount of effect that certain risks can have on company processes. This is achieved by adjusting certain aspects of an overall project plan or company process, or by reducing its scope.

3. Risk Sharing:

Sometimes the consequences of a risk are shared, distributed among several of the projects participants for business departments. The risk could also be shared with third party such as a vendor or business partner.

4. Risk Retaining:

Sometimes, companies decide a risk is worth it from a business standpoint and decide to keep the risk and deal with any potential fallout. Companies will often retain a certain level of risk if a project's anticipated profit is greater than the cost of its potential risk.

- **SOURCES OF RISK**

There are two main sources of factors for Risk. They are Perils and Hazards. These are discussed below:

I. Peril:

Peril is defined as the cause of loss. Thus, if a house is burnt because of fire, the peril or cause of loss is the fire. If a car is destroyed in an accident with another bus, accident is the

peril, or the cause of loss. Some common perils that result in the lost or destruction of property include fire, cyclone storm landslide earthquake etc.

Perils may be of the following types:

1. Natural perils:

Natural perils are disasters which are caused due to floods, hurricanes earthquakes, volcano eruptions tsunamis etc. that have immediate impact on human health and secondary impacts causing further death and suffering to the people.

2. Man made perils:

Man made perils are those perils which happen due to interference by human being. Loss caused by theft, robbery, accident, riot etc.

3. Economic perils:

Economic perils are those which are caused because of economic reasons such as inflation, recession, mismatch of demand and supply etc.

II. Hazard

Hazard is a condition that creates or increases the chances of loss. Factors which may influence the outcome are referred to as hazards. These hazards are not themselves the cause of the loss but they can increase or decrease the effect, should a peril operate.

Some types of hazards are:

1. Physical hazard:

A physical hazard is an agent, factor or circumstance that can cause harm without contact. They can be classified as type of occupational hazard or environmental hazard. Physical hazards include ergonomic hazard radiation heat and cold stress. For example, nature of construction of a building, security protection at a shop or factory, etc.

2. Moral hazard:

Moral hazard involves unethical or immoral behaviour by persons to seek their own financial gain at the expense of others. Malpractices happen because of moral hazard. Moral hazard is nothing but dishonesty or character defects in an individual that increases the chance of loss. For example a person himself causing damage to his property and then submitting claim with the insurance for indemnification.

3. Morale hazards:

Morale hazard is an insurance term used to describe an insured person's attitude about his belongings. It arises when the person does not care about his possessions because he knows he is insured.

- **MEASUREMENT OF RISK**

Measurement of risk means quantification of risk. In making investment decisions, an intelligent investor would attempt to anticipate the kind of risk that he is likely to face. In

other words, the investor tries to measure or quantify the risk of each investment that he would consider before making the final decisions. Risk measures are statistical tools and formulae that assess the risk involved in potential investments.

Some common measures of risk are:

- Standard Deviation
- Beta
- Value at Risk (VaR)
- Conditional Value at Risk (CVaR)

- **Standard Deviation**

Standard Deviation measures the dispersion of data from its expected value. The standard deviation is used in making an investment decision to measure the amount of historical volatility within investments related to its annual rate of return. It indicates how much the current return is deviating from its expected historical normal returns. For example, stock that has high standard deviation experiences high volatility and therefore a higher level of risk is associated with that stock.

- **Beta**

Beta is another measure of risk. It measures the amount of systematic risk an individual security or an industrial sector has relative to that of the whole stock market. For example, the market has a beta of 1 and this can be used to gauge the risk of a security. If a security's beta is equal to 1 the security's price moves in proportion with the market. A security with beta greater than 1 indicates that it is more volatile than the market. Conversely if security's beta is less than 1, it indicates the security is less volatile than the market.

- **Value at Risk (VaR)**

Value at risk is a statistical measure used to assess the level of risk associated with portfolio or company. The VaR measures the maximum potential loss with the degree of confidence for a specified period. For example suppose a portfolio of investments has a one year 10% VaR of Rupees 5 lakhs, therefore the portfolio has a 10% chance of losing more than rupees 5 lakhs over a 1 year period.

- **Conditional Value at Risk (CVaR)**

Conditional value at risk also known as the expected shortfall is a risk assessment measure that quantifies the amount of tail risk an investment portfolio has. It is used in portfolio optimisation for effective risk management.

- **RISK EVALUATION AND PREDICTION**

- **Risk Evaluation**

After risk identification the next step is to evaluate the degree of risk, that is, it denotes the mechanism of measuring the risk for comparing the results of the analysis to decide whether to accept a specific risk or take action to prevent or minimise it.

Risk evaluation is the process of comparing an estimated risk against given risk criteria to determine the significance of the risk.

It is desirable to rank the degree of various risks while evaluating them. This can be done by considering the consequences and probability of each risk. For example anyone responsible for a company's data server network or software must perform a risk evaluation. Risk evaluation can help determine if those assets are at risk from a cyber-attack virus or data loss through natural disaster or any other threat. The benefit of a risk evaluation is simple; it provides IT professionals with knowledge of where and how their business and reputations are at risk. Risk assessment is a look at the workplace to identify those things situations processes etc. that may cause harm particularly to employees and clients.

- **Risk Prediction**

The term risk prediction is used in relation to Healthcare outcome. In surgery, they are commonly used to predict the risk of adverse outcomes after intervention.

Risk prediction model is a mathematical equation that uses patient risk factor data to estimate the probability of a patient experiencing a Health Care outcome. Different risk prediction models are used in life insurance for different purposes such as risk level classification, insurance claims prediction.

- **RISK RETENTION AND TRANSFER**

- **Risk Retention**

Risk retention is a company's decision to take responsibility for a particular risk it faces, as opposed to transferring the risk over to an insurance company. Companies often retain risks when they believe that the cost of doing so is less than the cost of fully or partially insurance against it. The dictionary meaning of risk retention is a method of self insurance where by the organisation maintains a reserve fund for the purpose of offsetting unexpected financial claims. Many forms consciously take the decision to willingly bear a certain level of risk rather than transferring it to another party at the cost of premium.

- **Risk Transfer**

Risk transfer refers to a risk management technique in which risk is transferred to a third party. In other words risk transfer involves one party assuming the liabilities of another party. Purchasing insurance is a common example of transferring risk from individual or entity to an insurance company. In other words, risk transfer is a common risk management technique where the potential of an adverse outcome faced by an individual or entity is shifted to a third party. To compensate the third party for bearing the risk, the individual or entity will generally provide the third party with periodic payments.

Methods of risk transfer:

Risk can be transferred through two methods:

1. Through insurance:

It is the legal agreement between the individual or firm (insured) and the insurance company (insurer) wherein the latter agrees to indemnify the losses arising out of a pre-determined but uncertain occurrence of an event, against a fee charged annually from the former for this act, which is called premium. The insurance method of risk transfer is most appropriate when the severity of losses is very high.

2. Through non insurance transfer:

Out of many methods of non insurance risk transfers, the most common are:

- **Transfer of risk by general contracts**

Unwanted risk can be transferred by contracts, for example the risk of a defective television set can be transferred to the retailer by purchasing a service contract which makes the retailer responsible for all repairs after the expiry of warranty period.

- **Hedging price risks**

Hedging price risk is another method of risk transfer. Hedging is a technique for transferring the risk of unfavourable price fluctuations to a speculator by purchasing and selling future contracts on organised stock exchange such as NSE, BSE. This technique is often called portfolio insurance.

- **Conversion to Limited Liability Company(LLP)/ One Person Company**

Conversion to Limited Liability Company or One Person Company under the Companies Act is another method of risk transfer. In case of sole proprietorship firms, creditors for satisfaction of debts can attach the owner's personal assets as well as the assets of the firm. If a firm is incorporated with limited liability, the creditors for payment of the firm's debts cannot attach the personal Assets of the shareholders.

- **DISASTER MANAGEMENT**

- **What is a disaster?**

A disaster is an occurrence of an event which disturbs the normal conditions of existence and causes a level of suffering that exceeds the capacity of adjustment of the affected community. In other words disaster is an event sudden and terrible in nature such as a hurricane, tornado, flood, accident etc. that usually results in serious damage to property and causes loss of lives.

- **Types of disasters**

According to world Federation for physical therapy, there are four main types of disaster:

- **Natural disaster**

These include floods, hurricanes, earthquakes and volcanic eruptions that have immediate impact on human health and secondary impact causing for the death and suffering.

- **Environmental emergencies**

These include technological or industrial accidents usually involving the production, use or transportation of hazardous material and occur where these materials are produced used or transported and forest fires caused by human.

- **Complex emergencies**

These involve a breakdown of authority, looting and attacks on strategic installations, including conflict situations and war.

- **Pandemic emergencies**

These involve sudden onset of contagious disease that affects health, disrupts services and businesses, and brings economic and social losses.

From a broader point of view, disasters can be of two types:

1. **Natural disasters and**
2. **Manmade disasters**

These are explained below:

1. **Natural disasters**

Natural disasters include disasters from floods, hurricanes, earthquakes, volcanic eruptions, landslides, tsunamis etc. that have immediate impact on human health and secondary impact causing further death and suffering to the people. The worst part is that the disaster like earthquake, flood, storms, landslides etc. strike anytime, anywhere on earth without any warning.

2. **Manmade disasters**

Manmade disasters are disasters resulting from manmade hazards as opposed to natural disasters resulting from natural hazards. Human made disaster involves an element of human intent, negligence, error or involving a failure of human made system.

- **Disaster risk management**

The Red Cross and Red Crescent Societies define disaster management as the **organisation and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular, preparedness, response, and recovery in order to lessen the impact of disasters.**

- **Disaster management cycle**

The basic disaster management cycle consists of 6 main activities which include administrative decisions and operational activities that involve:

1. **Prevention**
 2. **Mitigation**
 3. **Preparedness**
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4. **Response**
5. **Recovery**
6. **Rehabilitation**

Disaster management involves actions from all levels of government, non-governmental and community based organisations which play a vital role in the process. Modern disaster management goes beyond post disaster assistance. It now includes pre disaster planning and preparedness activities, organisational planning, training, information management, public relations and many other fields. The new paradigm is the total risk management (TRM) which takes a Holistic approach to risk reduction.

- **Key phases of disaster management**

- **Pre disaster phase**

Before disaster, the preparedness should be aimed to reduce the potential losses for human, material or environment caused by hazards and to ensure that these losses are minimised when the disaster actually strikes.

Prevention and Mitigation: Reducing the risk of disaster involves activities, which either reduce or modify the scale and intensity of the threats faced or by improving the conditions of element at risk. Since natural disasters are not preventable, hence we can try to reduce its impact by taking protective or preventive measures to lessen the impact.

Mitigation embraces all measures taken to reduce both the effects of the hazard itself and the vulnerable conditions attached with it.

Preparedness: The process for preparedness embraces measures that enable government, community and individuals to respond rapidly to disaster situations to cope with them effectively. For example, preparedness include formulating emergency plans, development of warning system, public awareness and education, training of personnel etc.

- **During the disaster phase**

During disaster, the activities should be to ensure that the needs and provisions of victims are met to alleviate and minimise suffering.

Response: This refers to the first stage response to any calamity which includes, for example setting up control rooms, putting the contingency plan in action, issue warning etc. Response involves the emergency relief activities undertaken during and immediately following a disaster, which includes immediate relief, rescue and the assessment of damage and the debris clearance.

- **Post disaster phase**

After disaster, the action should be directed to achieve rapid and durable recovery which does not reproduce original vulnerable conditions.

Recovery: is used to describe the activities that encompass the three overlapping phases of emergency relief, rehabilitation and reconstruction.

Rehabilitation: includes the provision of temporary public utilities and housing as interim measures to assist long-term recovery.

Reconstruction: attempts to return communities to improve pre-disaster functioning. It includes the replacement of buildings infrastructure and lifeline facilities so that long term development prospects are enhanced.

Development: In an evolving economy the development process is an ongoing activity. Long-term prevention/disaster reduction measures for example construction of embankments against flooding, irrigation facilities as drought proofing measures etc. should be taken up as a part of the development plan.

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