1 INSURANCE AND RISK ANALYSIS

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LEARNING OBJECTIVE

After studying this chapter, you should be able to:

- Describe History and overview of insurance Sector in India
- Identify Purpose and need of insurance
- Describe Mechanism of Insurance and how it works
- Describe cost and benefits of insurance to individuals and the society
- Identify the roles of different players in the insurance industry
- Identify the difference between peril and hazard
- Enumerate the different types of hazards
- Understand the law of 'Large Numbers'
- Identify different types of insurable risks
- Understand the concept of risk
- Classify risk into different types
- Identify risk handling mechanisms
- Understand the reinsurance
- Enumerate the special features of insurance contracts
- Understand the principles of insurance contract
- Define the term risk management
- List down the steps in management process
- Understand the concept of probability
- Construct a risk management plan

KEY TERMS

This chapter features these terms which you should strive to do more research about:

Insurance	Development	Liberalization	Risk Retention
Risk Transfer	Life Insurance	Non-Life Insurance	IRDAI
Actuaries	Peril	Hazard	Pure risk
Risk Retention	Speculative Risk	Hedging	Reinsurance
Arbitrage	Indemnity	Insurable Interest	Utmost Good Faith
Subrogation	Contract of Adhesion	Unilateral Contract	Proximate Clause
Valued Policy	Material Facts	Contribution	Unilateral Contract
Catastrophe	Stage Technique	Probability	Risk Retention

INTRODUCTION TO INSURANCE

The Insurance sector in India is governed by Insurance Act, 1938, the Life Insurance Corporation Act, 1956 and General Insurance Business (Nationalisation) Act, 1972, Insurance Regulatory and Development Authority of India (IRDAI) Act, 1999 and other related Acts.

With largest number of life insurance policies in force in the world, Insurance happens to be a mega opportunity in India. With such a large population and the untapped market area of this population Insurance happens to be a very big opportunity in India. It's a business growing at the rate of 15-20 per cent annually and presently is of the order of Rs 500 billion. Together with banking services, it adds about 7% to the country's GDP. Gross premium collection is nearly 2% of GDP and funds available with LIC for investments are 8% of GDP.

In spite of all this growth the statistics of the penetration of the insurance in the country is very poor. Yet, nearly 80 per cent of Indian population is without life insurance cover while health insurance and non-life insurance continues to be below international standards. And this part of the population is also subject to weak social security and pension systems with hardly any old age income security. This it is an indicator that growth potential for the insurance sector is immense.

It was due to this immense growth that the regulations were introduced in the insurance sector and in continuation “Malhotra Committee” was constituted by the government in 1993 to examine the various aspects of the industry. The key element of the reform process was Participation of overseas insurance companies with 26% capital. Creating a more efficient and competitive financial system suitable for the requirements of the economy was the main idea behind this reform.

Since then the insurance industry has gone through many sea changes .The competition LIC started facing from these companies were threatening to the existence of LIC, .since the liberalization of the industry the insurance industry has never looked back and today stand as the one of the most competitive and exploring industry in India. The entry of the private players and the increased use of the new distribution are in the limelight today. The use of new distribution techniques and the IT tools has increased the scope of the industry in the longer run.

In India, insurance is generally considered as a tax-saving device instead of its other implied long term financial benefits. Indian people are prone to investing in properties and gold followed by bank deposits. They selectively invest in shares also but the percentage is very small. Even to this day, Life Insurance Corporation of India dominates Indian insurance sector. With the entry of private sector players backed by foreign expertise, Indian insurance market has become more vibrant.

The history of insurance in India can be divided into three phases as follows:

- Phase I – Pre-Liberalization
- Phase II– Liberalization
- Phase III – Post-Liberalization

Phase I – Pre-Liberalization

Table 1.1: Yearly Developments in the Pre Liberalization Phase

1818–1829	**First Insurance Company**: in 1818 the Oriental Life Insurance Company in Kolkata (then Calcutta) was the first company to start a life insurance business in India when it was conceived as means to provide for English widows. Interestingly in those days a higher premium was charged for Indian lives than the non-Indian lives as Indian lives were considered more risky for coverage. However, the company failed in 1834. In 1829 the Madras Equitable had begun transacting life insurance business in the Madras Presidency.
1850	The General insurance business in India, on the other hand, can trace its roots to the Triton Insurance Company Limited, the first general insurance company established in the year 1850 in Calcutta by the British.

1870	Following the enactment of the British Insurance Act 1870, the last three decades of the nineteenth century saw the creation of the Bombay Mutual Life Insurance Society (1870), Oriental (1874) and Empire of India (1897) in the Bombay Residency. Bombay Mutual Life Insurance Society was the first company to charge same premium for both Indian and non-Indian lives.
1907	The Indian Mercantile Insurance Ltd. set up, the first company to transact all classes of general insurance business
1912	The Indian Life Assurance Companies Act 1912 and the Provided Fund Act of 1912 was the first statutory measure to regulate insurance business in India.
1928	The Indian Insurance Companies Act, 1928 enacted to enable the government the power to collect statistical information about both life and non-life insurance businesses transacted in India by Indian and foreign insurers, including provident insurance societies.
1938	Several frauds during 20's and 30's sullied insurance business in India. By 1938 there were 176 insurance companies. To protect the interest of the insuring public, the earlier legislation was consolidated and amended by the Insurance Act 1938 which gave the Government effective control over the activities of insurers.
1956	The Insurance business grew at a faster pace after independence. Indian companies strengthened their hold on this business but despite the growth that was witnessed, insurance remained an urban phenomenon. In the 1950s, competition in the insurance business was very high and there were allegations of unfair trade practices.
1957	Formation of the General Insurance Council (GI Council): the GI Council a wing of the Insurance Association of India represents the collective interests of the non-life insurance companies in India and frames a code of conduct for ensuring fair conduct and sound business practices. The Council speaks out on issues of common interest, participates in discussions related to policy formation, and acts as an advocate for high standards of customer service in the insurance industry.
1968	The Insurance Act amended to regulate investments and set minimum solvency margins and the Tariff Advisory Committee set up.

Phase II – Liberalization

The Start of Reform: The international payment crisis of the 1990s forced the Government to re-think its industrial policies and regulations. The Government only had enough foreign currency reserves to finance a few days of imports. Indian federal government considers insurance as one of major sources of funds for infrastructure development. The government has identified the following as major thrust areas:

- Timely and reliable statistical data and information about policies and markets to instill a degree of credibility;
- A code of good practices based on international best practices to raise the standard of Indian insurance sector;
- Strengthening of supervision and regulation;
- Market participation in decision-making;
- High solvency standard' and Developing alternative channels.

Table 1.2: Yearly Developments during the Liberalization Phase

1993	The process of opening up the insurance sector was initiated against the background of Economic Reform process which commenced from 1991. **Malhotra Committee**: in 1993 the Government set up a committee under the chairmanship of R N Malhotra, the former Governor of RBI, to make recommendations for the reform of the insurance sector.
1999	**Formation of the IRDAI**: following the recommendations of the Malhotra Committee report, the Insurance Regulatory and Development Authority of India (IRDAI) was constituted as an autonomous body in 1999 to regulate and develop the insurance industry. The IRDAI was incorporated as a statutory body in April 2000.Resultantly Indian Insurance was opened for private companies and Private Insurance Company effectively started operations from 2001.

Phase III – Post-Liberalization

As we have seen, following the recommendations of the Malhotra Committee, the insurance sector was opened to private companies. In fiscal 2000-01, the Indian federal government lifted all entry restrictions for private sector investors. Foreign companies were also allowed to participate in the Indian insurance market through joint ventures (JVs) with Indian companies. Under current regulations the foreign partner cannot hold more than a 26% stake in the joint venture. GIC was converted into India's national reinsure from December, 2000 and all the subsidiaries working under the GIC umbrella were restructured as independent insurance companies.

The key objectives of the IRDAI include the promotion of competition with a view to increasing customer satisfaction through more consumer choice and lower premiums, while ensuring the financial security of the insurance market. The IRDAI has the power to make regulations under section 114A of the Insurance Act 1938. Since 2000 it has introduced various regulations ranging from the registration of companies for carrying on insurance business to the protection of policyholders' interests.

The Insurance Act 1938 and GIBNA were amended which removed the exclusive privilege of GIC and its four subsidiaries to write general insurance in India. As a result, general insurance business was opened up to the private sector.

With the General Insurance Business (Nationalization) Amendment Act 2002, effective from 21 March 2003, GIC ceased to be a holding company of its four subsidiaries. Their ownership was vested with the Government of India. GIC was notified as a reinsurance company.

Indian Parliament has cleared a Bill on July 30, 2002 de-linking the four subsidiaries from GIC. A separate Bill has been approved by Parliament to allow brokers, cooperatives and intermediaries in the sector. Currently insurance companies- both private and public-- have to cede 20 percent of its reinsurance with GIC. GIC is planning to increase re-insurance premium by 20 percent which works out at Rs 3000 cr. GIC is actively considering entry into overseas markets including West Asia, South-east Asia and SAARC region.

Recent Developments in the Insurance Industry

India is said to be the fifth largest insurance market in the world and it is still growing rapidly.

There has been a lot of change in the decade since the market was opened up to the private sector. In this section we will look at some of the important developments of the last few years.

Table 1.3: Recent Developments in the Insurance Industry

Growing Importance of IT	All insurance companies now use information technology (IT) to benefit their business and to improve convenience for their customers. Today, customers can pay their premiums and check the status and other details of their policy

	using the company's website. Updates relating to the receipt of premiums or changes to their policy are sent to the customer through mobile SMS.
Bancassurance	Many banks have joined with insurance companies to cross-sell insurance products to their customers. Insurance companies benefit from the wide network and loyal customer base of banks, and the contribution that bancassurance makes to insurance sales has steadily grown over the last few years. The banks benefit through being able to provide value-added products to their customers and from the fee income they receive in return from the insurance companies. Many banks have started their own life insurance subsidiaries.
Online Sales	Most of the insurance companies have now started selling insurance products online. This eliminates the need for an intermediary and reduces costs. This saving can be passed to customers in the form of reduced premiums.
Micro-Insurance	Micro-Insurance guidelines were issued by the IRDAI in 2005. Micro-insurance products provide insurance protection to people in lower income groups, such as Self-Help Group (SHG) members, farmers, rickshaw pullers and others against the risks that they and their assets are exposed to. The premiums for these products may be as low as Rs. 15 and are collected on a weekly basis. The minimum life insurance cover specified by the Regulator for this category is Rs. 5,000 and the maximum cover that can be provided is Rs. 50,000.
Grievance Redressal	Whenever any industry is experiencing fast growth,Concerns are there to be bound and the insurance industry is no different. There has been an increase in complaints from customers about the settlement of their claims and customer service in general. The latest initiative from the IRDAI is the setting up of a call centre which an insured can contact to seek the resolution of a grievance they have against their insurer. The unhappy customer can either call a toll-free number (155255) or email complaints@irdai.gov.in to register their complaint.

What is Insurance?

Insurance has been defined in many ways; Willet defines insurance "as the social device for making accumulations to meet uncertain losses of capital which is carried out through the transfer of risks of many individuals to one person or to a group of persons".

Dr. Pfeffer defined Insurance as a device for the reduction of the uncertainty of one party called the insured, through the transfer of particular risks to another party called the insurer, who offers, a restoration at least in part of economic losses suffered by the insured.

Another definition of insurance is "a promise of compensation for specific potential future losses in exchange for a periodic payment". Insurance is designed to protect the financial well-being of an individual, company or other entity in the case of unexpected loss. Some forms of insurance are required by law, while others are optional. Agreeing to the terms of an insurance policy creates a contract between the insured and the insurer. In exchange for payments from the insured (called premiums), the insurer agrees to pay the policy holder a sum of money upon the occurrence of a specific event. In most cases, the policy holder pays part of the loss (called the deductible) and the insurer pays the rest. Examples include car insurance, health insurance, disability insurance, life insurance, etc.

Insurance therefore is a contract between two parties whereby one party agrees to undertake the risk of another in exchange for consideration known as premium and promises to pay a fixed sum of money to the other party on happening of an uncertain event (death) or after the expiry of a certain period (in case of life insurance) or to indemnify the other party on happening of an uncertain event

(in case of general insurance). The party bearing the risk is known as the 'insurer' or 'assurer' and the party whose risk is covered is known as the 'insured' or 'assured'.

Insurance is a contract between the insurance company (insurer) and the policyholder (insured). In return for a consideration (the premium), the insurance company promises to pay a specified amount to the insured on the happening of a specific event.

That is all very well. But what does it mean? The first step in being able to answer this question is to understand why insurance is needed.

The Purpose and Need for Insurance

Consider the following case study to understand the need for insurance.

CASE STUDY

Ajay is 35 years old and works for a multinational corporation (MNC). He has a ten-year-old son, Vijay, whom he dreams will one day become a doctor. Ajay's spouse is a housewife, and his parents are retired and dependent on him. Ajay has a home loan and is making monthly investments for Vijay's higher studies and marriage and his own retirement. Ajay wants to ensure that Vijay gets the best of everything and that he himself is not dependent on Vijay during his retirement in the way that Ajay's parents are on him. So far everything is going well with Ajay's plans. But imagine what will happen in the following scenario.

One day while returning home from the office Ajay has an accident and dies. What will happen? Who will take care of the family?

Vijay's education and marriage, the home loan etc.?

What are the options available to Ajay so that his family can be taken care of in his absence?

Life insurance provides protection to a family on the untimely death of the income provider. If Ajay has adequate life insurance cover, then should he die, the money received from the life insurance company can help to support his family. The insurance money will help to take care of the family's living expenses, Vijay's education and marriage, and the cost of the home loan etc.

Now that we have looked at the above scenario, we can see how insurance, in this case life insurance, can safeguard a person against unexpected events.

How does Insurance Work?

Now that you understand the need for insurance, we can move on to understanding how insurance works exactly.

Let us continue with our case study of Ajay. The risk of premature death described above is only one of the risks that Ajay faces. He faces many other risks that he will need medical care at some point that his home may burn down etc. Ajay can handle these risks in different ways.

- **Risk Retention**: One, not very wise way, of handling these risks is to retain them, i.e. for Ajay to bear the risk that he will have to provide for these situations himself, and so do nothing about them. While times are good and none of these events happen, Ajay need not be worried. But the moment any one of them does happen, Ajay will be in trouble. So it is definitely not wise for Ajay to retain, or handle, these risks himself.
- **Risk Transfer**: The other way of handling these risks is to transfer them to someone who can handle them properly. In simple words, the process of transferring risks from one person who does not have the capacity to bear them to someone who does have the capacity for them, is known as insurance.

Insurance is a contract between the insurance company (insurer) and the policyholder (insured). In return for a consideration (the premium), the insurance company promises to pay a specified amount to the insurance on the happening of a specific event.

Insurance, then, is nothing but a risk transfer mechanism wherein the person taking out insurance transfers their risk to the insurance company in return for a payment (known as the premium). So in Ajay's case he can take out insurance, pay the premium and transfer his risks to the insurance company.

Insurance companies collect premiums from people like Ajay from all those who are exposed to the same risks and put the money into a risk pool. Not everyone will experience the happening of an insured event at the same time, but those who do are compensated from this risk pool.

So, from the above explanation we can see that insurance is

- The process of transferring the risk from the owner (insured person);
- To another party (insurer) who can bear that risk;
- In return for a consideration (premium).

The business of insurance relates to the protection of the economic value of assets. An asset is valuable to its owner because they expect some benefits from it. The benefit can be in the form of income generated from the asset (giving a car on rent) or convenience (using the car for their own travel).

Human beings are also assets in the sense that they have the capacity to generate income themselves. Every human being has a finite life span, and death is certain. But the timing of death is uncertain. If a person dies unexpectedly early in their working life, then their family will lose the income that person would have generated in future, had they survived for their entire working life. This is where life insurance acts to fill the financial gap left behind by the early death of a person. The timing of death is uncertain for everyone, so potentially every human being needs life insurance from an early age, to protect future income.

Life insurance can protect the family from financial hardship in the event that the untimely death of an individual leads to a loss of income.

Mechanism of Insurance

The underlying concept behind insurance is sharing of risks by pooling of funds. Groups of people sharing similar risk come together and make contribution towards a pool and the money so collected is used towards compensating for any losses suffered by members of the pool. When the pool is managed by the individuals it is called mutual insurance and when it is managed by a company it is called life/general insurance

We will understand the concept with an example:

Example 1 **What happens if 2 houses are burnt?**	**Example 2** **What happens if 25 persons die?**
Assumptions • Houses in a village = 500 • Value of 1 House = Rs. 1,00,000 • Houses burning in a year = 2 • Total annual loss due to fire = Rs. 2,00,000 • Contribution of each house owner = Rs. 500	**Assumptions** • Number of Persons = 500 • Age and Physical condition = 60 years and Healthy • Number of Persons dying in a yr = 25 • Economic value of loss suffered by family of each dying person = Rs. 2,00,000 • Total annual loss due to deaths = Rs. 50,00,000 • Contribution per person = Rs. 1,200
Underlying Assumption All 500 house owners are exposed to a common risk, i.e. fire	**Underlying Assumption** All 5000 persons are exposed to common risk, i.e. death

Procedure	Procedure
All owners contribute Rs. 500 each as premium to the pool of funds	Everybody contributes Rs. 1200 each as premium to the pool of funds
Total value of the fund = Rs. 2,50,000 (i.e. 500 houses × Rs. 500)	Total value of the fund = Rs. 60,00,000 (i.e. 5000 persons × Rs. 1,200)
2 houses get burnt during the year	25 persons die in a year on an average
Insurance company pays Rs. 1,00,000 out of the pool to 2 house owners whose house got burnt	Insurance company pays Rs. 2,00,000 out of the pool to the family members of each of the 25 persons dying in a years
Effect of Insurance	**Effect of Insurance**
Risk of 2 house owners is spread over 500 house owners in the village, thus reducing the burden on any of the owners	Risk of 25 persons is spread over 5000 people

Advantages: Transferring Risk through Insurance

1. **Loss Indemnification:** Insurance contributes to family and business stability. Indemnification means to make up for the losses and to bring the person in the same position as he was before the loss. For example if A's car got damaged then the insurance company will indemnify A his losses and bring him in the same position as he was before the loss.
2. **Reduction of Worry and Fear:** Insured are less worried about losses because if some unfortunate event occurs then insurance company will pay them the claim. For example after the death of the insured his/her family member will get the insured amount to meet their expenses.
3. **Source of Investment Funds:** The premiums collected by the insurer may be invested in sectors which will help in promoting economic growth of the country.
4. **Insurer support loss prevention activities:** Insurer support loss prevention activities and mechanisms that reduce direct and indirect losses to an individual or society.
5. **Insured individuals have better credit ratings:** Insured individuals have better credit ratings than individuals without insurance.

Disadvantages: Transferring Risk through Insurance

1. **Cost of doing the business:** Insurance consumes resources in providing risk protection cover to society. Insurance companies charge an amount termed as loading to pay all expenses, including commissions, general administrative expenses, and an allowance for contingencies. Also the premium which is being paid out could be utilized for more productive activities.
2. **Fraudulent and inflated claims:** Payment of fraudulent or inflated claims results in higher premiums to all insured, thus reducing disposable income and consumption of other goods and services.

Benefits of Insurance to Society & Economic Development

1. **Insurance companies act as financial intermediaries:** Some functions are same as other financial intermediaries, but there are some special functions- Role of insurance in individual & corporate risk management. Insurers are not mere pass-through mechanisms for diversifying risk (indemnification of loss of one from contributions of many)
2. **Insurance helps in promoting financial stability:** By indemnifying those who suffer loss or harm. Insurance helps in promoting financial stability without insurance people would be destitute and would have to depend on friends, relatives or the government. Possibility of uninsured businesses failing-No more contributions from failed firms to the economy (loss failed of jobs etc.). Insured firms assured that 'wealth creation' can continue.
3. **Insurance acts as a good substitute for government social security programs:**

   Private insurance complements public security programs, thus relieving pressure on social welfare systems, freeing government resources for urgent and important social welfare schemes.

4. **Insurance helps in facilitating commercial activities:** Many products and services would be produced and sold only if insurance is available (insurance coverage being a precondition for engaging in some business activities) – Venture capital funds would not invest in the absence of insurance. Cover is also needed for business expansion, insurance acts as a "lubricant of commerce".
5. **Insurance helps in mobilizing savings in the economy:** Countries that save tends to grow faster. Insurance channels help savings into domestic investment. Insurance enhances financial system efficiency in three ways.
   (i) Insurers reduce transaction costs associated with bringing together savers and borrowers: (Thousands-pay premiums, most of which is channeled into investments in business and industry). This is better than individual policy holders directly investing in business and industry- savings in cost and time. Insurers can access information (more efficiently and quickly) needed for investment. In turn, the efficiencies acquired by insurance companies are passed on to the policy holders through lower premiums.
   (ii) Insurers create liquidity: Insurers invest the funds entrusted to them by their customers to make long term loans and other investment. Policyholders, however, have immediate reimbursements of their losses and can rely on their savings with insurance companies, while borrowers need not repay their loans. If individuals were to do this on their own, they would be creating illiquidity for a high portion of their saving.
   (iii) Insurers facilitate economies of scale in investment: A well developed financial system will have a variety of financial institutions and instruments. Life **insurance** companies being contractual savings institutions specialize in long term finance also because of their stable cash flows and long term liabilities.
6. **Insurance enables efficient risk management:** Financial systems and intermediaries provide for risk transformation, risk pooling and risk reduction. These are risk management services.
7. **Insurance can foster capital allocation:** Insurers do extensive research; gather considerable data on firms' projects etc. Individual investors cannot do this. Hence, insurers are better at resource allocation (investible funds) vis-à-vis individuals.

Insurers do continuous monitoring of firms where they have invested funds, signalizing more efficient utilization of economy's investible funds.

Constituents of Insurance Market

Apart from the insurer and the insured the other roles in the insurance industry include the following.

Exhibit 1.1: Constituents of the Insurance Market

Table 1.4: Detailed Information about the Constituents

Agents	These contribute the major percentage of insurance sales in India. It is the agent's primary responsibility to meet the prospective client understands their needs, and accordingly recommends suitable products.
Corporate Agents	These include banks and brokers.
Intermediaries	These can be individuals as well as organisations, like firms, banks and composite brokers. Intermediaries solicit and procure business from prospective clients for the insurance company
Underwriters	These decide whether to accept or reject the insurance proposal. If the proposal is to be accepted, then the underwriter decides at what price it should be accepted.
Actuaries	These calculate the standard price of products. They take into account statistical data and the past claims experience of the company. Apart from pricing individual products, they also do an overall financial assessment of the insurance company from time to time to make sure that the company has sufficient reserves to pay for future liabilities.
Third party administrators (TPAs)	These do the work of building hospital networks. They also help with approvals at the time of cashless admission to a hospital and with settling the bill with the insurer on discharge.
Loss adjusters / surveyors	These do the work of assessing and certifying a loss when a claim is made on the insurance company. They have a major role to play in non-life insurance business.
The Regulator	The Regulator has the responsibility of ensuring the smooth running of the insurance sector. The insurance Regulatory and Development Authority (IRDAI) is the Insurance Regulator in India. The IRDAI grants licenses to insurance companies and makes sure all insurance companies are in compliance with the regulations at all times. It also has a responsibility to protect the interest of the small policyholders against the might of insurance companies.
Training Institutes	These have the responsibility of supplying trained manpower to meet the ever growing need for skilled labor in the insurance industry. The Insurance Institute of India (III), Insurance Institute of Risk Management (IIRM) and the National Insurance Academy (NIA) are premier training institutes in the field of insurance
NGOs – Protecting the customers' rights	Non-Governmental Organisations (NGOs) play an important role in spreading awareness about insurance products and protecting the rights of the customers. The role of NGOs is more important in the rural areas where they work with Self Help Groups (SHGs) and insurance companies on deeper penetration of micro-insurance products to the grassroots level.

Understanding the role of Insurance in personal finance

In the wake of increasing inflation and changing lifestyles, it is imperative for every individual to focus on financial planning at an early stage. A financial plan of an individual should be customised to meet one's individual needs at different stages of life and it is important to have a balanced mix of instruments to address the various needs of protection, savings and wealth creation. It is observed that people tend to focus on the 'wealth creation' aspect of financial planning and the 'protection' element often gets compromised or neglected.

Insurance is a very crucial part of everyone's financial plan. Staying prepared for the unforeseen would ensure that you could still accomplish your goals even after encountering a financial crisis. An insurance policy would help to preserve your emergency fund in case of emergencies. Insurance could also protect your family if you're part of an accident and have sustained injuries, become disabled, ill or die. Some situations could be very expensive for the ones with no insurance coverage, so it is vital to have any policy you which you require depending on your financial situation.

Life Insurance is still a nascent idea and most people do not think about it until a major life change causes them to consider what might happen to their loved ones in case of any unforeseen circumstances. While the main objective of buying a life insurance policy is to protect oneself from unforeseen circumstances, it can also help in wealth accumulation, preservation, and give access to liquidity at the right time, if added as a component of financial planning.

Most of us usually get confused on how much to invest and where to invest – stocks, bonds, real estate and many others. Life insurance is a good investment tool, which is comparatively simpler, more affordable and most importantly caters to the different stages of the individual's lifecycle.

Below are some of the major categories of insurance which should form part of everyone's financial plan:

1. Auto insurance: Auto Insurance protects one from the damage to the considerable investment in a vehicle from liability for the damage and also injury sustained by you or others driving your car. It could also help in covering the expenses you or others in your vehicle might incur due to an accident with the uninsured motorist. Auto insurance is crucial for people owning a car. Most of the countries require you to have auto insurance before you could register your vehicle.
2. Life insurance: Life Insurance is payable on the demise of the insured and it can provide the insured's spouse, children, and dependents funds essential for helping them maintain the standards of living, could help in repaying the debts, and could also help in funding the education costs of children. The amount one needs depends on one's financial situation. A life insurance plan is also a tax saving tool since the insurance premium that you pay for your insurance policy is eligible for income tax benefit u/s 80C of the Indian Income Tax Act. The policy proceeds that you receive from the life insurance company are also exempt from tax

   How much do you need?

   While there are many complex calculations that are available online, there are some simple thumb rules to estimate the quantum of insurance needed for an individual. The most common way is to calculate life insurance as about 20 times of the individual's annual income. There are many product categories that can cater to the 'Investment and Wealth creation' needs of the customers, but none can offer the advantage of protection along with the benefit of sustained and disciplined savings as insurance products do. A financial plan would not be complete without the key element of life insurance so chart out your goals and objectives and make an informed decision.
3. Medical Insurance: If you're insured against medical emergencies and critical illness, you're staying in very advantageous position. Your medical insurance policy could reimburse all medical expenses during your hospitalization. You just need to furnish the required documents which prove that you were under medical supervision. In case you require a cashless policy, the insurer would directly pay the medical bills to the hospitals.

Sticking to an insurance plan is very crucial part of the financial plan. Annually, you should also review your insurance and make required adjustments. If you require any help, consider seeking the assistance of a financial adviser. Having insurance isn't enough – it should meet all your needs. Being aware of financial implications and potential risks is critical. Additionally, it is crucial to understand all the features and terms and conditions of the insurance policy so you're aware of exactly what you're covered for.

UNDERSTANDING ROLE OF INSURANCE ADVISOR Insurance is a technical concept which has to be understood completely to understand the benefits that it offers. Moreover, insurance, as a product, is not sold in stores or shops. This is where insurance advisors come into the picture. Insurance

advisors not only explain the complex details of insurance policies, but they also help individuals in buying a suitable plan. Insurance advisors are, in fact, the most important and popular mode of distribution of insurance policies. Let's understand who they are and what role do they play in the insurance sector

Who are Insurance advisors?

Insurance advisors are intermediaries who bridge the gap between insurance companies and policyholders. Insurance advisors represent insurance companies and sell the insurance products offered by such companies to their clients. As such, insurance advisors sell insurance policies and, as a compensation for their services they earn a commission on each policy that they sell.

Role of Insurance advisors

Insurance advisors have to liaison between the insured and the insurer. They have a role in generating insurance business for the company that they represent. Moreover, since they also represent their clients, insurance advisors have a role to play towards them as well. So, the role of an insurance advisor can be divided into the following two categories –

Role of insurance advisor towards the insurance company

1. Generating maximum business: The first role of the insurance advisor is to generate as much new business for the insurance company as possible. This can be achieved by selling the maximum number of policies to his/her clients. An insurance advisor, therefore, should approach as many individuals as possible and try to position the company's insurance policies in the individual's financial needs if possible.
2. Persistency: Just selling insurance policies is not enough. The insurance advisor should also ensure that he/she can retain the customers of the company. Persistency is an important factor in the insurance company's revenue. Persistency shows how many policyholders are continuing with the same plan with the same insurance company. Persistency is particularly important in case of life insurance policies which are long term plans. Under these policies, the continuity of the plan for the stipulated tenure is in the best interests of the insurance company as well as the policyholder. The insurance advisor should, therefore, ensure that his existing clients continue their insurance coverage without fail.
3. Promoting the insurance company: Another role of the insurance advisor is to promote the insurance company with which he/she is associated. Only when customers trust an insurance company would they buy the company's policies. The advisor should, therefore, build a positive brand image of the insurance company in the eyes of his/her clients and improve the company's goodwill.

Role of Insurance advisor towards his customers

1. Fact-finding: The first thing which an insurance advisor is required to do before generating a sale is to find out the details of his/her clients. When the advisor knows the personal and financial details of the client, he/she can find out the client's needs and requirements. These needs and requirements would then help the advisor to position the right insurance product. So, fact-finding is the first step of the insurance sales process where the advisor should find out the details of the client.
2. Goal identification: Once the advisor has the personal and financial details of the client, the next step is to find out the financial goals that the client has. Insurance policies are goal-oriented products. They can be used to fulfil the different financial goals that individuals have. For instance, if an individual wants financial security, term insurance and health insurance plans prove ideal. For child planning needs, child life insurance plans are the most suitable. So, until and unless the advisor finds out what the client exactly wants, the right insurance product cannot be sold.
3. Fulfillment of financial goals: This step is where the insurance advisor's expertise and knowledge are sought by clients. Once the financial goals of the individual are identified, the advisor's role is to suggest the right insurance products which would fulfil the identified goals. The clients benefit

from insurance only when the right insurance policy is matched with their needs. As the clients benefit from insurance, their trust in insurance advisors also grows.

4. Handling objections: When the advisor suggests the suitable insurance product the client might not agree with the client's suggestions. There are bound to be objections and queries from the customer's end. It is, therefore, the advisor's role to handle all the customer's objections and answer them to the best of his/her knowledge.
5. Helping the clients buy insurance: To buy an insurance policy clients are required to fill up a proposal form stating all their relevant details. The details contained in the form then form the basis of the insurance contract. So, it is important that the clients provide all the information correctly. The advisor's role is to oversee whether his clients are providing the correct information. He/she should also help the client fill up the proposal form and explain the relevance of the different parts of the form so that the client knows why the information should be authentic.
6. Maintain contact: The insurance advisor's role does not end with the sale of an insurance product. The advisor should keep in constant touch with the client even after the policy has been sold. Constant relationship with the client would help the advisor get referrals which would help in boosting the advisor's business. Moreover, through contact, the advisor can help the customer renew his/her insurance policies and therefore maintain a high persistency ratio.
7. Help in claim settlements: The final role that an advisor has towards his/her client is at the time of claims. Since the advisor is well-versed with the technicalities of insurance and knows the claim process, it is his/her duty to help his/her clients get the settlement of their claims. Insurance advisors can play a key role in the claim settlements of their customers by helping them with the correct process and the documents required. Assistance at the time of claims would increase the customers' trust in advisors and would also help in generating more business. Insurance is not only about selling insurance policies, it also involves building a long term relationship. When the advisor helps the client at the time of claims, the client understands the importance of insurance and realises how the policy came to his aid. This makes the client more receptive to insurance and he/she also buys more insurance policies thereby increasing the business of the advisor.

BASIC CONCEPTS OF INSURANCE

Insurance is one of the popular, common and commercial ways of handling risk. Before discussing insurance one should know basic concepts of insurance.

Peril and Hazard

Peril is an immediate specific event which might cause a loss and giving rise to risk. An accident or illness is a peril. If a house burns down, then fire is the peril. This loss can be loss of life or loss of property. Natural disasters such as earthquakes, storms, floods etc. are all perils which cause loss of life and damage to assets. Perils are the risk being insured against, e.g. the risk that an individual will die during the term of their policy.

A hazard is a condition that gives rise to a peril. A hazard is a condition that either increases the chance that a peril will happen or may cause its effect to be worse if it does. Smoking is a physical hazard that increases the likelihood of a house fire and illness.

Example: If lung cancer is peril then smoking can be a hazard that may increase the chance that the peril (lung cancer) will occur.

CASE STUDY

On 26 January 2001 one of the worst earthquakes in India's history hit Gujarat. Thousands of people lost their lives in this tragic event. Lakhs of people were injured and property worth thousands of crores of rupees was destroyed. The epicenter of the earthquake was located northeast of Bhuj Town in Western Gujarat.

In this case the earthquake was the peril and the poorly constructed houses and schools which were not earthquake resistant easily collapsed were a hazard.

Similarly in the event of a tsunami (such as the one that happened on 26 December 2004) leading to widespread loss of life and property, the tsunami will be the peril and flimsy houses and buildings constructed near the seashore which are washed away causing their occupants to drown will be a hazard.

Remember that while insurance cannot prevent the peril from happening, the resulting loss from the occurrence of the peril can be insured against.

Types of Hazards

Hazards can be categorized into one of the following types:

Three types of hazards:

(i) **Physical Hazards**: Physical hazards are characteristics of the individual that increase or reduce the chance of peril. Examples are body structure (height related to weight), blood pressure, sugar levels, cholesterol levels etc. A family history of heart disease, high blood pressure etc. is a physical hazard.

(ii) **Moral Hazards**: Moral Hazards are habits or activities that increase risk, such as smoking, drug or alcohol use. These have social as well as personal effects. They may also arise from a state of mind, i.e. the attitude and behavior of the individual.

(iii) **Morale Hazards**: Morale Hazards are individual activities that arise from a state of mind, such as the casual indifference toward one's body as exhibited by individuals with hazardous hobbies, such as ski-diving or flying ultra-light aircraft.

In the case of life insurance, companies take account of hazard by categorizing policyholders as high or low risk individuals based on their risk exposure. This categorization also extends to the assets owned by the policyholder if they wish to insure them as well. Some of the hazards that would cause an individual to be categorized as high risk are:

- **Risky Job Profile:** if the job profile of the individual requires them to work in dangerous situations then the exposure to risk increases. For example, a person working in a chemicals factory, explosives factory, and underground mine etc. will be considered more at risk than someone working in an IT company or a bank.
- **Existing Medical Conditions:** if the individual has already been diagnosed with a medical condition such as high blood pressure or diabetes, they will be considered to be a greater risk than those who are not suffering from an illness.
- **Lifestyle of the Individual:** if an individual maintains a healthy lifestyle and abstains from smoking and drinking, the risk reduces. In contrast, an individual who is a heavy smoker or drinker has a higher exposure to risk.
- **Age group of the Individual:** an older individual seeking insurance will be considered a greater risk than a younger person.

If the individual is categorized as high risk, insurance companies can either accept or reject the proposal.

High risk proposals can be accepted on other than standard terms such as charging a higher premium, imposing restrictions on the sum insured, term or a lien etc.

Law of Large Numbers

"Mathematical premise stating that the greater the number of exposures

1. The more accurate the prediction;
2. The less the deviation of the actual losses from the expected losses (X - x approaches zero); and

3. The greater the credibility of the prediction (credibility approaches one). This law forms the basis for the statistical expectation of loss upon which premium rates for insurance policies are calculated".

Insurance is based on probabilities of loss occurrence. The insurers estimate the premium payable based on the relevant statistics and probabilities. For the actual outcome of loss exposure to be reflective of the statistics, there must be a large number of homogenous units. The larger the number of homogenous (similar) exposure units the more likely the loss experience will conform to the probability statistics.

The law of large numbers is the foundation of all insurance and was discovered 300 years ago by a Swiss Mathematician, Jacob Bernoulli. When an event based on chance is observed, the larger the number of observations, the more likely the actual result will coincide with the expected result.

This principle also demonstrates that an event with a low probability of occurrence in a small number of trials has a high probability of occurrence in a large number of trials. The actual outcome of a statistical process converges towards the expected value as the number of observation increases.

"When a coin is flipped once, the expected value of the number of heads is equal to one half.

Therefore, according to the law of large numbers, the proportion of heads in a large number of coin flips should be roughly one half. In particular, the proportion of heads after n flips will surely converge to one half as n approaches infinity ".

In insurance premium calculations are done on the basis of the probability of occurrence of an event such as death, fire etc. The costing which is done on the basis of using the probability theory works more accurately when the number of people insured is large and the geographical spread is greater.

Insurance companies apply the 'law of large numbers' to determine the cost of total annual claims. Insurance companies determine the probability that a certain amount of claims will have to be paid by them if a large number of people are insured for a similar risk.

Example: Out of the 1,000 individuals insured by an insurance company, if the probability of death is 1% then the company will have to pay claims for 10 people.

An insurance company will set the rates of its premiums according to the number of claims it will expect to pay over the term of the policy.

Adverse Selection

This is a term used to describe the situation where an insurance company accepts too many proposers who bring a higher than average risk to the pool. The concept of adverse selection is based on the view that people who fear that they are prone to risk are more likely to want to take out life insurance as opposed to people who feel that they are prone to low risk. If a company does find itself exposed to adverse selection it may find that it pays out more claims than anticipated. This obviously has a bad effect on the success of the company.

Example: Rakesh Sharma has recently being diagnosed with diabetes. He is only 38 years old. Rakesh is very keen to get insurance cover and is willing pay a high premium. Rakesh Sharma's main intention in taking out an insurance plan is to transfer the cost of the medical expenses that are likely to occur in the near future to the insurance company. Also, in case he dies, the claim from the life insurance company should be sufficient for his family to maintain a decent lifestyle.

If people like Rakesh Sharma are selected by the insurance company in large numbers, this could lead to adverse selection. The potentially huge medical expenses that may arise will have to be borne by the insurance company.

Insurable Risks

The following types of risk can be insured against:

- Financial risks

- Pure risks
- Particular risks

Financial Risks

The outcomes of risks that can be measured in monetary terms are known as financial risks. Some of the financial risks for which an individual needs to plan are as follows:

Table 1.5: Various Types of Financial Risk

Loss of Life – This refers to risk of death of the income provider of the family with unfulfilled financial liabilities.	• To provide a steady source of income to dependants after death. • To help dependants in fulfilling various financial liabilities such as a home loan, car loan etc. in the event of their death.
Disease / Disability – These include medical expenses and loss of earning.	• To provide for any medical expenses that might arise. • To provide financial security in the event of being unable to work due to disease/disability.
Savings Accumulation	• To provide for children's higher education • To provide for children's marriage expenses • To provide initial capital for a business etc.
Retirement – This refers to the risk of insufficient income following retirement.	• To accumulate sufficient capital to live comfortably post-retirement • To provide a steady source of income post-retirement.

Pure Risks: Pure risks are those risks where there is no possibility of making a profit. In pure risks there can be a loss and the best possible outcome is one of breaking even.

With a pure risk the possibility of any benefit occurring as a result of the insured event taking place is nil. This type of risk is associated with those events which are totally out of the control of an individual.

Particular Risks: Particular risks are personal or local in their effect. The consequences of these risks occurring affect specific individuals or local communities.

Self-Insurance/Risk Retention: Keeping or 'retaining' the risk with oneself. It may be knowingly or unknowingly deliberate or because of lack of knowledge to recognize the potential risk and its extent. It can be with or without a fund. It indicates ways to finance any loss that occurs. One way of financing the loss is to set aside a contingency fund to meet the cost as and when it occurs. 'Retention' is also called as 'self insurance'.

The easiest way of dealing with relatively small losses is to pay for them out of one's own resources when they occur, or possibly to set aside a contingency fund to pay for larger losses. It involves accepting the loss when it occurs. Self insurance falls in this category. Risk retention is a viable strategy for small risks where the cost of insuring against the risk would be greater over time than the total losses sustained. All risks that are not avoided or transferred are retained by default. This includes risks that are so large or catastrophic that they either cannot be insured against or the premiums would be infeasible. Also any amount of potential loss (risk) over the amount insured is known as retained risk.

Example: Generally, property and other risks are not insured against war, so the loss attributed by war is retained by the insured.

One, not very wise way, of handling these risks is to retain them, i.e. for someone to bear the risk that he will have to provide for these situations himself, and so do nothing about them. While times are good and none of these events happen, he need not be worried. But the moment any one of them does happen, he will be in trouble. So it is definitely not wise for someone to retain, or handle, these risks himself.

Factors influencing risk retention decision:

1. Risk Appetite of the organization - management philosophy, size of company etc.
2. Nature and size of risk
3. External incentives and disincentives - this refers to the incentive which a company derives for retaining risk or disincentive for transferring risk.

For e.g. some of the rating agencies from Japan do not confer quality rating to a company if the company avails loss of profit insurance. Loss of profit insurance is an insurance where losses in revenue sustained due to stoppage of business due to an insured peril is covered.

If such coverage is taken, it implies (as per the rating agencies) that the insured does not have operations within a short period of time from an unforeseen event.

Rule for Risk Retention

When the risks faced are not reduced, transferred or avoided, the individual retains the possibility of loss.

The risks that should be retained:

- Are those that lead to relatively bearable loss and
- Does not affect the frequency or the severity of a loss

Before retaining the risk one should think about followings:

- Retaining part/all of losses
- Active/inactive (Passive)
- No other method available
- Worst possible loss is not serious
- Losses are highly predictable

Advantages of Self-Insurance

1. No additional cost of agents / brokers
2. Immediate payment i.e. there is no payment hassles.
3. Earn returns from the money by investing i.e. interest which is going to reduce future cost.
4. Fraudulent claims of others do not affect
5. Adverse claim experience of other does not affect
6. Incentive to control risks – absence of moral and morale hazards
7. No dispute over claims delay or claim rejection.
8. Cultivate the habit of saving.

Disadvantages of Self-Insurance

1. Catastrophic losses that to in the beginning may pose financial problems
2. No technical advice of insurers and surveyors
3. No spreading of risk
4. No tax benefit
5. No in-house expertise on funding.

INSURANCE AND RISK

As Wealth Manager you are concerned with the risks relating to human life and we shall focus our attention on these aspects in this chapter. However, we shall also be making reference to some risks that apply to general insurances as this will help you to gain a good understanding of the concept of risk in its broadest sense.

Insurance is a mechanism that helps in creating counter balance for risk, which acts as a security. It is the promise by the insurance company to a person, that in the event of a loss in a pre-specified period, the insurance company will bring the person in the same financial position as he was just before the loss or it will reduce the extent of financial loss connected with the event.

From an individual point of view, insurance is an economic device whereby the individual can substitute a small relatively definite cost for a large uncertain financial loss that would have to be borne if insurance was not available. In other words insurance provides a pool to which many people contribute a certain sum of money called the premium, and out of which the insurer compensates few people who suffer losses.

In addition to eliminating risk at the level of the individual through transfer, the insurance mechanism reduces risk for the society as a whole. The society and the economy have benefitted substantially from the operations of the insurance mechanism. Life insurance provides relief to the members of the society from financial difficulties arising from premature death of the bread winner of the family. Burden of government to provide relief to the aged citizens is reduced through the insurance mechanism.

Insurance: Purpose & Need: Exposure to the consequences of uncertainty constitutes risk. In everyday usage, risk is often used synonymously with the probability of a known loss. The loss or damage may or may not occur; Insurance is done against the contingency that it may occur. There has to be an uncertainty about the risk. Insurance is relevant only if there are uncertainties. If there is no uncertainty about the occurrence of an event, it cannot be insured against.

Example: In the case of a human being, death is certain, but the time of death is uncertain, thus the life can be insured. In the case of a person who is terminally ill, the time of death is certain, though not exactly known, thus his life cannot be insured.

Insurance does not protect the asset. It does not prevent its loss due to the loss producing event. A loss producing event cannot be avoided through insurance. A loss producing event can sometimes be avoided, through better safety and damage control management.

Insurance only tries to reduce the impact of the risk on the owner of the asset and those who depend on that asset. It only compensates the losses – and that too, not fully.

Only economic consequences can be insured. If the loss is not financial, insurance may not be possible. Examples of non-economic losses are love and affection of parents, leadership of managers, sentimental attachments to family heirlooms, innovative and creative abilities, etc.

Working Mechanism: The mechanism of insurance is very simple. People who are exposed to the same risks come together and agree that, if any one of them suffers a loss, the others will share the loss and will make loss good to the person who suffered the loss. By this method, the heavy loss that any one of them may suffer (all of them may not suffer such losses at the same time) is divided into small losses bearable by all. In other words, the risk is spread among the community and the likely big impact on one is reduced to smaller manageable impacts on all.

Concept of Risk

Definition of Risk: The word 'risk' can be used in several different contexts. In insurance, risk is applied to certain assets that can be insured, such as a human life, a house, a car, etc. There is no single definition of risk because of the different contexts in which it can be used.

Here are some of the definitions of risk:

- Risk is the chance of damage or loss
- Risk is doubt concerning the outcome of a situation
- Risk is something or someone considered to be a potential hazard

During a lifetime an individual can be exposed to many risks, some of these are:

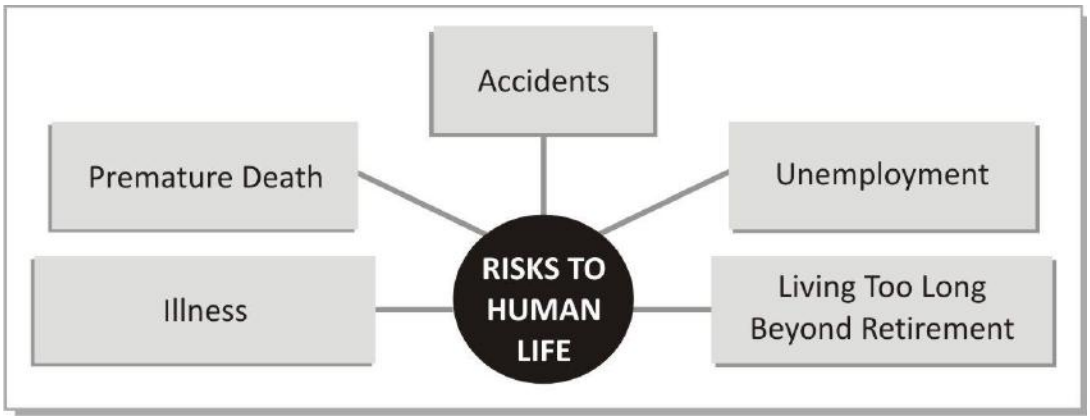

Exhibit 1.2: Various Risks to Human Life

Insurance cannot prevent the occurrence of these risks, but it can reduce their impact should they occur. Life insurance mainly deals with two risks – premature death and living too long. The other risks relating to human life are mostly covered under non-life insurance. However, life insurance companies offer additional benefits or riders along with life insurance plans to cover the following risks – death or disability due to accidents, illness and unemployment and the risk of living too long.

Example: Rakesh Gupta is sales executive working for a private company. His job involves frequent travelling to meet various retailers in his region in order to achieve his monthly and quarterly sales targets. Sometimes he has to travel continuously for days, without any rest.

Rakesh Gupta is exposed to the following risks, for which he should consider buying insurance:

Premature Death: Rakesh's job profile is quite stressful and involves intense travelling. He is exposed to the risk of early death which could occur due to an accident or illness caused by stress. A life insurance plan can protect his family against the risk of Rakesh's early death.

Accident: Due to the frequent travelling that Rakesh has to do, he is prone to the risk of accidents that can result in either permanent or temporary disability. A life insurance plan with a disability benefit rider or a separate accidental death policy can protect his family against the risk of Rakesh becoming disabled.

Illness: Due to the stressful nature of his job, Rakesh is exposed to the risk of suffering from critical illness. A life insurance plan with a critical illness, or a health insurance policy, can help meet the hospitalization expenses should Rakesh suffer from any critical illness.

Unemployment: If Rakesh has an accident and become disabled, he risks losing his job and becoming unemployed.

Living Too Long: Should none of the above events occur during his working life and Rakesh retires, he may be exposed to the risk of living too long beyond retirement. He is working for a private company that does not provide a monthly pension after retirement as part of his employee benefits. Hence he needs to work towards building a retirement fund during his working life by investing in a retirement pension plan. On retirement he can purchase an annuity plan from a life insurance company that will pay him regular annuity payments during his retirement years.

Note: Details about various life insurance plans, health insurance plans and riders will be discussed in later chapter.

Attitude to Risk: Each person's attitude to risk is different. Therefore, we all respond to risks in different ways. Some people are willing to retain risks and carry them themselves, while others act cautiously and transfer them to an insurance company.

Components of Risk

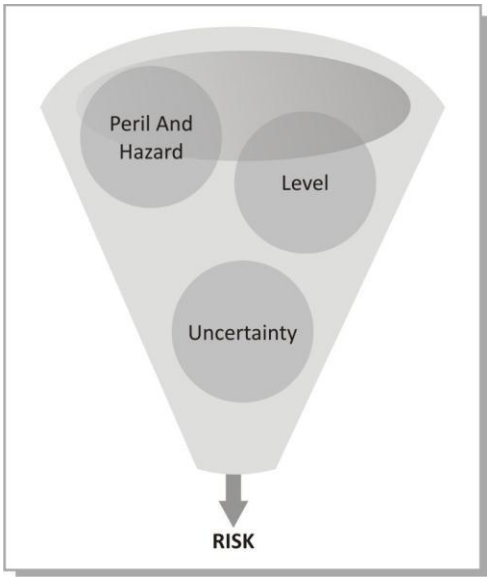

Exhibit 1.3: Different Components of Risk

Uncertainty: Life is uncertain and so is our future. If we could know in advance that an event is going to take place we could plan to prevent it or overcome it, and thereby limit or even remove the risk involved.

As a general principle insurance is only available for risks that are uncertain. This statement raises a question: we all know that death is certain – but we also know that life insurance is available against death.

So how can this statement be true?

It is true because, although we will all die one day, when we will die is uncertain. It is the uncertainty about the timing of death that makes death insurable. Once the timing of death becomes certain, when an individual is suffering from a fatal disease, for example, then an insurance company will not cover the risk.

The following case studies show how this works:

CASE STUDY

1. Rishabh Agrawal is a 40-year-old businessman who leads a healthy lifestyle. Every morning he practices yoga and abstains from smoking, tobacco and alcohol. There is a family medical history of diabetes and both his parents suffer from it. But Rishbah Agrawal himself has not been diagnosed with diabetes. Can Rishbah be provided with the insurance?
   The answer is Yes, because Rishbah maintains a healthy lifestyle and he has not been diagnosed with any disease. The timing of his death is uncertain
2. Rakesh Sharma has been diagnosed with a brain tumor at a very advanced stage. The doctors know that they cannot save him and sadly Rakesh's death is almost certain in the near future. Can Rakesh Sharma be provided life insurance?
   The answer is No. life insurance companies will not take the risk of providing insurance over for Rakes as his death in a very short time span is almost certain.

Level of Risk

We know that there is a greater likelihood of some things happening than others and this affects the level of risk involved.

The level of risk is normally assessed in terms of the:

- **Probability (or Frequency)** of a certain event happening, and the
- **Extent (or Severity)** of the event if it does happen.

Frequency: The probability that a certain person will die within one year is calculated by actuaries, from the past data collected, and is made available as mortality tables. This allows insurance companies to determine the probability of a particular event, such as death, occurring under various circumstances.

The probability of risk to life for individuals will differ on the basis of their age, medical wellbeing, family medical history, lifestyle, job profile etc.

The mortality rate is the chance of dying at a specified age based on the proportion of deaths among a specific number of a sample population.

Example: Let's look at two different groups of 100 people. The first group is aged 30-39. of these one person dies before the age of 31. The probability of death in this case is 1% - or frequency of 1 in 100. The second group is aged 60-69. Of these 15 die people before the age of 61 (15%). The frequency of death in the second group is therefore greater than in the first group.

Severity: Insurance companies attempt to determine the amount of claims they would experience if the insured events were to actually occur based on the likely severity of the losses.

CASE STUDY

On 22 may 2010 Air India Express Flight 812 (Dubai – Mangalore) crashed. 158 passengers were killed. The total insurance claim for Air India is expected to run into crores of rupees for the plane crash victims.

The nature of airline insurance can be categorized as low frequency but high severity (impact) since the probability of an air crash is low, but when it does occur, the extent of the loss is very high.

Categories of Risk

Risk can be divided into various categories but here in we shall discuss only those types of risk which are related to risk management and insurance planning.

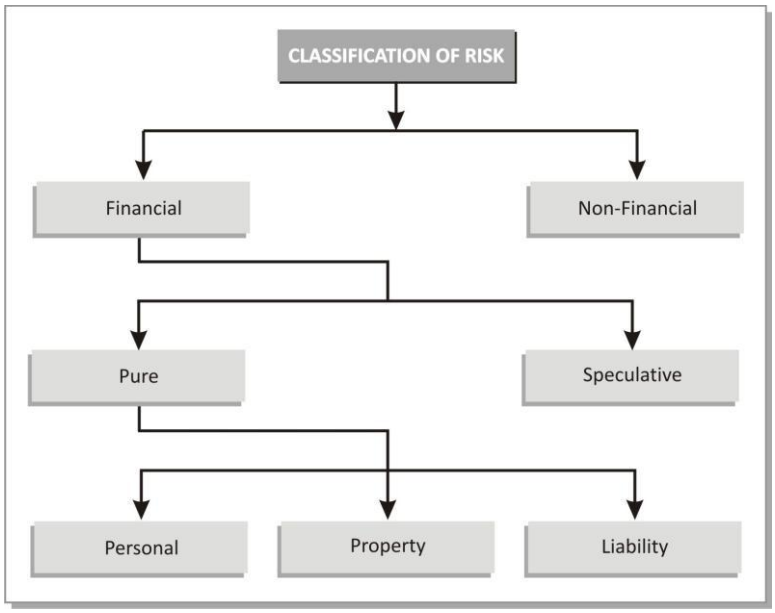

Exhibit 1.4: Classification of Risk

Non-Financial Risk: A non-financial risk is that risk which involves the possibility of a loss, which cannot be accurately assessed in monetary terms.

Example:

(a) Emotional loss due to untimely death of a close friend.
(b) Loss of Prestige because of losing in an election.

Financial Risk: Financial risk is that risk which involves the possibility of a loss or gain, which can be assessed in monetary terms.

Illustration: If fire breaks out in a ware house then the loss to stock and the building can be assessed in monetary terms

Pure Risk: The term Pure Risk is used to refer to those situations that involve the chances of loss or no loss. Thus, pure risks are those risks where the occurrence of the event results at a best in no change in the situation of the individual or firm exposed to the risk, though more likely causes a loss with no possibility of gain. Pure risk is more in the nature of an Act of God. In short, we can say it is that category of risk in which loss is the only possible outcome; there is no beneficial result.

Example: The possibility that a person's house may be destroyed due to a natural disaster like storm is an example of pure risk. In this example, there is no possibility of gain from the event. Pure risk can be dealt with by purchasing insurance. Other examples of pure risk events include accidental death, fire, theft career-ending disabilities etc.

Types of Pure Risk

1. **Personal Risk**: It refers to those risks which involves the potential loss of income as a result of an individual's loss of ability to earn an income. This risk can occur as a result of:
   a. Premature death,
   b. Unemployment
   c. Dependent old age or
   d. Disability etc.

   Example: Suppose Mr. Ajay while commuting to the work place meets with an accident and got his right hand fractured. Now he can not attend his office until he recovers. The loss of income as a result of his absence from office is an example of personal risk.

2. **Property Risk:** Property risk comes with the ownership of the property. These are direct or consequential losses due to destruction or damage or theft of the property.

   Thus, property losses can be of 3 types:
   a. Damage to the property itself.
   b. Loss of use of the property or loss of income derived from it because of it being unused.
   c. Indirect losses and expenses as a result of damage to the property.

   Example: Suppose a portion of Mr. Rahul's house got extensively damaged due to fire, as a result of which he has to spend some money to get his house repaired in order to bring it back to the same condition. The loss incurred as expenses towards repair of his house is an example of property risk.

3. **Liability Risk**: This risk arises when our actions results in unintentional injury to other person or damage to their property through negligence or carelessness. The liability to pay for the losses incurred by others arises under:
   a. Statute – This liability arise under any Act of Central or State Government.
   b. Common law – This cover the law relating to torts and civil wrong
   c. Under contract – This arises at the time of entering into an agreement.

   Example: Suppose Mr. Rajesh lost control of his car and hit a bicycle rider on his way, who got seriously injured as a result. Thus a liability is created under the statute towards the bicycle rider for the injury suffered by him due to his fault. This is an example of liability risk.

Speculative Risk: Speculative risks are those risk where the outcome of the event may be either a loss or a profit. All speculative risks are made as conscious choices and are not just a result of uncontrollable circumstances.

A speculative risk may have one of the following outcomes:

a. Gain
b. Loss
c. Status Quo (No loss and No gain)

Speculative risk is the opposite of pure risk. By definition, almost all investment activities involve speculative risks, as an investor has no idea whether an investment will be a blazing success or an utter failure. For example, the risk of loss of property by fire is a speculative risk for the insurer who underwrites a large number of such risks in the expectation of being able to achieve an overall profit on his portfolio.

Pooling of Risks: Pooling of risks is one of the fundamental principles of insurance.

With pooling of risks an insurance company pools the premium collected from several individuals to insure them against similar risks. The insurance company maintains different sets of pools for different risks.

Example: Separate pools will be maintained by insurance companies for

- Life insurance
- Car Insurance
- Home Insurance
- Travel Insurace

The premium collected from the individuals is deposited in the pool accounts. When there is a claim to be settled it is paid out of this pool. The insurance company has to make sure that the premium that is collected is enough to meet the claim payments. The premium that is charged by the insurance company should also be sufficient to meet the administrative and other expenses for maintaining the pool. The insurance company includes a certain percentage of the profit in the premium as well.

Methods of Handling Risk

Several methods are in everyday use for handling risks. The important ones are described below:

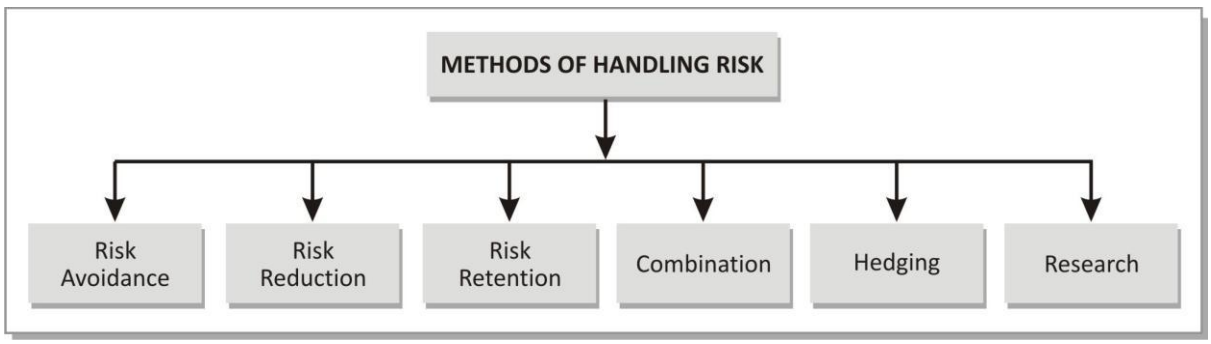

Exhibit 1.5: Various Methods of Handling Risk

1. **Risk Avoidance**: It may be best defined as an informed decision of not getting involved in a risky situation. Often it will involve ceasing to undertake the activity which creates the risk or performing it in another way or at some other place. Avoidance may seem the answer to all risks, but avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed.

   Example 1: Risk of damage by flood may be avoided by moving to another site well above recorded flood levels.

   Example 2: A firm may seek to avoid the risk of employees being attacked when carrying wages from the bank by changing over to payment by cheque or credit transfer.

2. **Risk Reduction:** Risk reduction covers all methods employed to reduce either the probability of loss producing events or the potential size of losses that do occur.

   Eliminating a risk completely is not possible and the only remedy available is by way of risk reduction. It is also known as loss prevention.

   Example 1: Using safety valves on pressure vessel is a loss for reducing risk.

   Example 2: Wearing helmet while riding on motor bike, reduces the risk of being hit on the head during an accident.

3. **Risk Retention:** The easiest way of dealing with relatively small losses is to pay for them out of one's own resources when they occur, or possibly to set aside a contingency fund to pay for larger losses. It involves accepting the loss when it occurs.

   Self insurance falls in this category. Risk retention is a viable strategy for small risks where the cost of insuring against the risk would be greater over time than the total losses sustained.

   All risks that are not avoided or transferred are retained by default. This includes risks that are so large or catastrophic that they either cannot be insured against or the premiums would be infeasible. Also any amount of potential loss (risk) over the amount insured is known as retained risk.

   Example: Generally, property and other risks are not insured against war, so the loss attributed by war is retained by the insured.

4. **Risk Transfer:** Risks can be transferred in two ways:
   (i) The activity which creates risk itself may be transferred;
   (ii) Contractual arrangements may be made to transfer responsibility for any losses attributable to the occurrence of specified uncertain events from one party to the contract to other party.

   Some ways of managing risk falls into multiple categories. Risk retention pools are technically retaining the risk for the group, but spreading it over the whole group involves transfer among individual members of the group. This is different from traditional insurance, in that no premium is exchanged between members of the group up front, but instead losses are assessed to all members of the group.

   Generalized Risk Management Guidelines:

Frequency	Severity	Guideline
Low	Low	Retention
Low	High	Loss Financing (Insure, Hedge)
High	Low	Prevention, Retention
High	High	Avoidance

   Following conclusion can be drawn from the table given above:

   (a) If there is high probability and high severity of loss, then risk avoidance is the best policy. Example: People working in mines, adventure sports, bungee jumping etc.
   (b) If there is low probability and high severity of loss, then risk transfer through insurance is the best policy. Example: Road Accidents.
   (c) If there is high probability and low severity of loss, then risk reduction is the best policy. Example: Normal wear and tear of assets.
   (d) If there is low probability and low severity of loss, then risk retention is the best policy. Example: Small thefts.

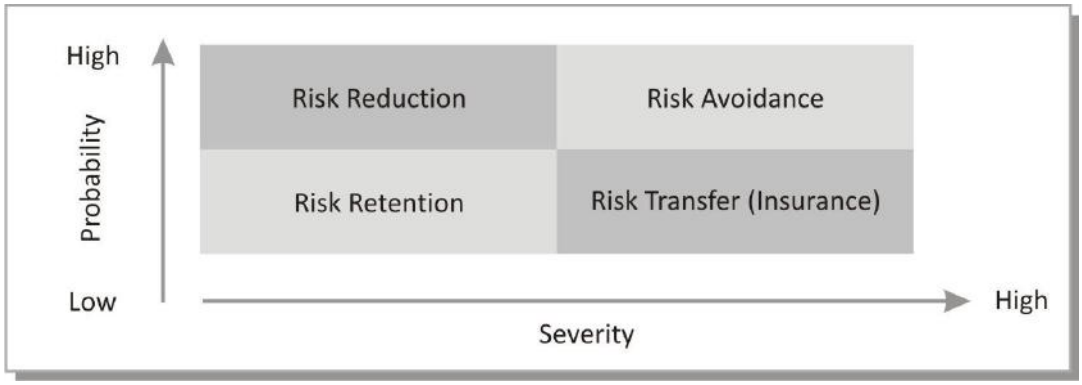

Exhibit 1.6: Risk Severity and Frequency Matrix

5. **Combination:** Combination takes the advantage of the law of large numbers. As we have seen, by combining a large number of independent exposure units in one portfolio, an insurance company is able to reduce the risk of its aggregate losses varying substantially from the aggregate loss expected for any one year. The advantage to be gained from pooling the experience of exposure units independently exposed to risk provides strong support for any organization centralizing the management of its risks.
6. **Hedging:** Firms that enter into contracts to supply goods at a fixed price in the future face the risk that a rise in prices between entering into the contract and the delivery date may involve them into a loss. In order to remove, reduce or partially eliminate the risk, the firm adopts hedging techniques, which includes taking offsetting positions in the derivative markets, thereby limiting the liability and loss, if any.
7. **Research:** Research is designed to improve the information on which decisions are taken. It helps in reducing risk. A firm that is thinking of marketing a new product may seek to reduce the uncertainty by conducting market research. Though there can be no guarantee that the actual outcomes will match the expected.

Generally, two or more methods may be employed in handling any risk. Although a management may formulate its risk handling policies in the light of financial considerations and the firm's objectives, it probably will not have complete freedom of action.

Business of Insurance

Insurance companies are called insurers. The business of insurance is to:

(a) Bring together persons with common insurance interests (sharing the same risks),
(b) Collect the share or contribution (called premium) from all of them, and
(c) Pay out compensations (called claims) to those who suffer.

In simple words, the business of insurance is nothing but one of sharing. It spreads losses of individuals who are exposed to similar risks. People who suffer loss get relief because their loss is made good. People who do not suffer loss are relieved because they were spared of the loss.

In India, insurance business is classified primarily as life and non-life or general. Life insurance includes all risks related to the lives of human beings and general insurance covers the rest.

Characteristics of Insurance

Pooling of Losses: In addition to eliminating the risk of an individual, the insurance mechanism reduces risk and uncertainty for the society as a whole by spreading the losses incurred by few over the entire group. Thus, insurance pays for losses that are unforeseen, unexpected and occur as a result of chance. By combining a sufficiently large number of similar units, the insurer is able to make fairly accurate predictions for the group as a whole. This is possible because of laws of probability which enable more accurate calculations possible when larger volumes are involved.

Risk Transfer: Transferring or shifting of risk from one individual to a group is the fundamental characteristics of insurance. To illustrate the insurance mechanism, let us assume that there are 100 houses in a village and the value of each house is say Rs 1,00,000. Each owner faces the risk of loss

due to fire. Now the owners of these houses enter into an agreement to share the cost of losses as they occur, so that no single individual will be forced to bear the entire loss of Rs 1,00,000. Whenever a house burns, each of the 100 owners will pay Rs 1000 and the owner of the destroyed house will be indemnified.

Through the agreement to share the losses, the risk of economic loss that could be caused by fire is spread throughout the group.

Risk Indemnification: Under insurance, the insured is restored to his or her original financial position existing prior to occurrence of the loss.

Requirements of an Insurable Risk

Following are the requirements of an insurable risk:

1. Law of Large Numbers/Law of averages: The principle of law of large numbers states that the larger the pool, the more predictable the amount of losses will be in a given period. Since not all members of the pool are of the same age or in the same health condition, we can assume that not all of them will be making a claim at the same time. This principle is also known as the law of averages.
2. The loss must be accidental and unintentional to assure randomness.
3. The loss should be a measurable loss. Insurer must be able to determine the quantum of loss in the event of its occurrence.
4. The loss should not be catastrophic in nature.
5. There must be calculable chances of loss to establish an adequate Premium.
6. Premium should be economical so that people can afford to buy the policy

Table 1.6: Insurance V/s. Gambling

Insurance	Gambling
1. Insurance is a technique for handling already existing pure risk.	1. Gambling creates a new Speculative risk
2. Insurance is socially productive.	2. Gambling is not socially productive
3. Both parties have a common interest in the prevention of a loss.	3. The winner's gain comes at the expenses of the loser's loss.
4. The premium is paid to cover unexpected losses.	4. The amount paid is to generate undue profit.

Table 1.7: Insurance V/s. Hedging

Insurance	Hedging
1. Insurance involves the transfer of insurable risk.	1. Hedging typically involves retention of risks but setting a limit to the maximum extent of loss that a risk can cause.
2. Insurance can reduce the objective risk of an insurer through the Law of Large Numbers.	2. Hedging does not result in reduction of risk through the Law of Large Numbers
3. Insurance is a comprehensive term which includes hedging.	3. Hedging is the technique to Insure maximum extent of loss.

Reinsurance

Insurance is a risk transfer mechanism. Risk is transferred from those who are unable to bear it to those who can. However, insurance companies can only take on so much risk.

Once that limit is reached, the insurer itself is exposed to the risk of loss. When this happens insurers look to transfer some of their risks to someone else to shield themselves from overexposure. This is

where reinsurance companies come into use. A reinsurance company is an insurer for the insurance company.

Reinsurance companies take on a certain percentage of the risks on the insurance company's books, in return for the payment of a consideration.

An insurer assuming larger risk from the direct insurance business may arrange with another insurer to off load the excess of the undertaken risk over his retention capacity. Such arrangement between two insurers is termed 'reinsurance'. Thus, by the device of reinsurance the original insurer transfers a part of the risk to the reinsurer. Payment made by the ceding insurer (called original insurer or reinsured) to accepting insurer (called reinsurer) for the assumption of the risk by the latter is termed 'reinsurance premium'.

A reinsurance contract does not affect the original insurer's contractual obligation to the insured under the original contract of insurance. Moreover, in the absence of any privity of contract between the reinsurer and the originally insured person, the latter cannot have any remedy against the former. It is worth noting that since a contract of reinsurance is also a contract of indemnity, the reinsurer, before paying the money, must make sure that the sum originally insured has been paid by the 'original insurer' (or the 're-insured'). Of course, after paying the money in proportion to the risk transferred to him, a reinsurer becomes entitled to the benefits of subrogation.

If for any reason, the original policy lapses, the reinsurance comes to an end. Further, if the original contract is altered without the consent of the reinsurers, the reinsurers are discharged. Hence a policy of reinsurance is co-extensive with the original policy.

Definitions

(a) 'Cession' means the unit of insurance passed to a reinsurer by the insurer which issued a policy to the original insured and, accordingly, a cession may be the whole or a portion of single risks, defined policies or defined divisions of business, as agreed in the reinsurance contract;
(b) 'Facultative' means the reinsurance of a part or all of a single policy in which cession is negotiated separately and that the reinsurer and the insurer have the option of accepting or declining each individual submission;
(c) 'Indian re-insurer' means an insurer who carries on exclusively reinsurance business and is approved in this behalf by the Central Government;
(d) 'Pool' means any joint underwriting operation of insurance or reinsurance in which the participants assume a predetermined and fixed interest in all business written.
(e) 'Retrocession' means the transaction whereby a reinsurer cedes to another insurer or reinsurer all or parts of the reinsurance it has previously assumed;
(f) 'Retention' means the amount which an insurer assumes for his own account. In proportionate contracts, the retention may be a percentage of the policy limit. In excess of loss contracts, the retention is an amount of loss;

'Treaty' means a reinsurance arrangement between the insurer and the reinsurer, usually for one year or longer, which stipulates the technical particulars and financial terms applicable to the reinsurance of some class or classes of business; Reinsurance is a means by which an insurance company can protect itself against the risk of losses with other insurance companies. Individuals and corporations obtain insurance policies to provide protection for various risks (hurricanes, earthquakes, lawsuits, collisions, sickness and death, etc.).

Reinsurers, in turn, provide insurance to insurance companies

- A financial management tool
- Insurance for insurance companies
- Always behind the high quality insurance program or a complex commercial risk of any good insurer
- To ensure that losses will be paid if and when they become due and they get paid within a reasonable time

Functions of Reinsurance: There are many reasons why an insurance company would choose to reinsure as part of its responsibility to manage a portfolio of risks for the benefit of its policyholders and investors

1. **Risk Transfer:** The main use to any insurer that might practice reinsurance is to allow the company to assume greater individual risks than its size would otherwise allow and to protect itself against losses. Reinsurance allows an insurance company to offer higher limits of protection to a policyholder than its own assets would allow.
   For example, if the principal insurance company can write only Rs. 10 million in limits on any given policy, it can reinsure (or cede) the amount of the limits in excess of Rs. 10 million.
   Reinsurance's highly refined use in recent years includes applications where reinsurance was used as part of a carefully planned hedge strategy.
2. **Income Smoothing:** Reinsurance can help to make an insurance company's results more predictable by absorbing larger losses and reducing the amount of capital needed to provide coverage.
3. **Surplus Relief:** An insurance company's writings are limited by its balance sheet (this test is known as the solvency margin). When that limit is reached, an insurer can stop writing new business, increase its capital or buy "surplus relief" reinsurance. The latter is usually done on a quota share basis and is an efficient way of not having to turn clients away or raise additional capital.
4. **Arbitrage:** The insurance company may be motivated by arbitrage in purchasing reinsurance coverage at a lower rate than what they charge the insured for the underlying risk.

Services offered by reinsurer

- Provide expertise to their direct insurer clients
- Assist them in obtaining the best possible protection for mega risks
- Providing technical, actuarial and claims expertise

Retrocession: Reinsurance companies themselves also purchase reinsurance and this is known as a retrocession. They purchase this reinsurance from other reinsurance companies. The reinsurance company who sells the reinsurance in this scenario is known as "retrocessionaire." The reinsurance company that purchases the reinsurance is known as the "retrocedent."

FUNDAMENTAL PRINCIPLES OF INSURANCE

An Insurance policy is a special legal contract between the insurance company and the insured person with following unique features.

The special features of an Insurance Contract are:

1. Principle of Indemnity
2. Rules of Insurable Interest
3. Utmost Good Faith
4. Subrogation in Insurance
5. Doctrine of Utmost Good Faith
6. Aleatory Contract Concept
7. Contract of Adhesion
8. Unilateral Contract
9. Proximate Cause

Principle of Indemnity

Insurance contracts are generally based on the principle of indemnity.

Indemnity can be defined as: financial compensation sufficient to place the insured in the same financial position after a loss as they enjoyed immediately before the loss occurred.

In short, this means that in the event of a loss the insurance company indemnifies (compensates) the insured for the loss they incur, under the terms and conditions of the policy.

Example: Suresh has taken out an individual health insurance policy with a sum insured of Rs. 2,00,000. Suresh falls ill and has to be hospitalized, resulting in a hospital bill of Rs. 40,000. So in this case the insurance company will compensate (indemnify) Suresh with Rs. 40,000.

As per this principle, the insured should be in the same financial position after the settlement of claim as he was immediately prior to the loss. The rationale being that the insured should not benefit from an insured loss.

Insurance cannot be used to make a profit: The principle of indemnity makes sure that the insured is compensated only to the extent to which they have suffered a loss. Thus the insured cannot profit from insurance.

Example: Rajesh has taken out an individual health insurance policy with a sum insured of Rs. 1,00,000. Rajesh also has health cover of Rs. 1,00,000 from his employer. Rajesh falls ill and has to be hospitalized, resulting in a hospital bill of Rs. 25,000. So in this case Rajesh cannot make a claim of Rs. 25,000 from both insurers. Rajesh will get a total claim of only Rs. 25,000. So the principle of indemnity ensures that insurance cannot be used to make a profit.

Indemnity makes sure that the insured is neither better nor worse off after the claim is settled by the insurance company. It also makes sure that neither the insured benefits at the cost of the insurer, nor that the insurer benefits at the cost of the insured.

General insurance policies and health insurance policies are contracts of indemnity. However there are some insurance policies which are an exception to the above rule, such as:

1. **Life Insurance:** Since the value of human life cannot be assessed, life insurance policies are not strict policies of indemnity. These are more of a benefit policy. However, this does not mean that one can take insurance policy for any value, as this would create a moral hazard. Most of the insurers determine the sum assured based on some benchmark, such as the earning capacity of the assured.

   Example: If Ajit has taken out an endowment policy of Rs. 100,000 for 10 years with an annual premium payment of Rs. 10,000 and he dies in the fourth year of the policy, the beneficiary will get the full amount of Rs. 1,00,000 (plus the bonuses accumulated up to that point), even though Ajit has paid premiums for only four years.

   Therefore life insurance contracts are also known as value contracts and the principle of indemnity does not apply to them. In the case of life insurance, even if a person takes out multiple policies, the insured's death will result in all the insurance companies paying the full sums insured.

   So remember that where life insurance is concerned, the concept of sharing claims, as per the principle of indemnity, does not apply; we can see this in the following example:

   Example: Manish has taken out a whole of life policy from insurance company ABC for Rs. 15,00,000 and an endowment policy for Rs. 10,00,000 from insurance company XYZ. In the event of his death, within the policy term, both insurance companies will pay Manish's nominee. So Manish's nominee will get a total insurance amount of Rs. 25,00,000 (Rs. 15,00,000 + Rs. 10,00,000) from the two insurance companies.
2. **Replacement Cost Insurance:** This policy offers new for old and came into vogue during the Second World War. Due to high inflation in those days, the claim amount received on market value basis was found to be inadequate to carry on businesses. Such Type of policies is issued under Fire and Engineering branch of insurance and they are granted for relatively new property, project insurance etc.

   In such policies no depreciation is deducted and the claim settlement is made on replacement value of the property on the date of loss.
3. **Valued Insurance Policies:** A valued insurance policy is another exception to the rule of indemnity. Valued policies pay the full face value of the policy whenever an insured's loss occurs. The value of the insured property is agreed to before the policy is written. Marine insurance contracts are issued on a valued basis. Under marine insurance, the policies are generally issued for Invoice cost + Freight + Insurance + 10% being margin for profit.

For e.g. marine insurance is taken for 100 cartons of readymade garments which has an invoice value of Rs 1,00,000, the freight payable for transporting it is Rs. 2,000, marine insurance payable for covering the transportation risk is Rs. 1,500. Insurance can be taken for Rs. 1,00,000 + Rs. 2,000 + Rs. 1,500 = Rs. 1,03,500. Additional 10% can be added for the profit which the seller may make on the transaction, as the profit would be lost in case of any loss or damage while the consignment is in transit. Hence, the value for which insurance can be taken is Rs 1,03,500 + 10% (of Rs. 1,03,500) = Rs. 1,13,850. This is the amount that will be paid by the insured to the insurer in case of loss, damage to the cartons.

Claim settlements are also based on the valuation agreed upon.

Similarly while insuring obsolete machinery, antiques, works of art which does not have a regular market, the valuation is agreed prior to the commencement of the policy to avoid disputes in the event of claims.

Insurable Interest

For an insurance contract to be valid, the proposer should have insurable interest in the subject matter of insurance.

What is Insurable Interest?

The following case study will help you to understand the meaning of insurable interest:

CASE STUDY

Ganesh is a 30-year-old man working for a multinational company (MNC). Ganesh's wife works for a domestic firm and she is a co-applicant in the loan on their home together with Ganesh. Whilst Ganesh has a well-paid job, as well as managing the monthly living expenses he has a running home loan and a car loan to take care of. Ganesh has worked hard to build these assets. So far everything has been going as Ganesh has planned. Imagine, however, the following scenarios:

Scenario 1: Ganesh meets with an accident and is hospitalized for a month.

Scenario 2: Ganesh's wife dies unexpectedly.

Let us have a closer look at the above scenarios and possible solutions.

Scenario 1: Ganesh will not be able to work for least a month. He will not receive a salary for that time and will also have to pay his hospital bills which could be very costly. To avoid this situation Ganesh should ensure that he has adequate health insurance to cover him against unexpected medical emergencies and to cover him against loss of pay if he is absent from work due to medical reasons.

Scenario 2: Ganesh's wife, apart from contributing to the family income, also takes care of the family. Following her unexpected death, Ganesh will face financial difficulties in repaying the home loan and meeting other financial commitments. To protect against the above scenario Ganesh can take out life insurance on his wife's life which will pay out in the event of her unexpected death, thus ensuring that the family's finances are not put in jeopardy. Ganesh's wife can also take out life insurance on Ganesh's life which would pay out on his unexpected death.

You will see from these scenarios that if either of the events happen, Ganesh and his family's financial position will be adversely affected unless he has taken out insurance.

Insurable interest implies that the proposer should benefit financially by the continued existence of the insured property/life or should be put into financial loss by the loss/damage/death of the subject matter insured.

Insurable interest is said to exist when an individual stands to gain or benefit from the continued existence or well-being of another individual(s) or property, and at the same time the individual

would suffer a financial loss or inconvenience if there is damage to the other individual(s) or property.

We can see from the case study that Ganesh has insurable interest in his own good health and the life of his wife because he benefits from the well-being of them, and he would be financially adversely affected should there be damage to either or both of them.

Relevance of insurable interest: Now that you know the meaning of insurable interest, you must be wondering what is the relevance or importance of insurable interest in insurance? Insurable interest is a very important principle of insurance. In order to take out any kind of insurance, an individual has to have insurable interest in the subject matter they wish to insure. The subject matter is the item or event insured and can be a person's own life, the life of others or property. Insurable interest forms the legal basis for deciding whether insurance can be taken out or not.

Insurable Interest is the legal right of the person to insure the subject matter with which they have a legal relationship recognized by law.

Circumstances in which insurable interest exists: Court judgments have established the circumstances in which insurable interest is deemed to exist.

By common law, insurable interest is deemed to exist in the following circumstances:

- **Own Life:** a person has unlimited insurable interest in their own life.

  Example: Ganesh can take out life insurance for an amount equal to the present value of his future earnings. Alternatively, he might assess how much would be needed to take care of all his liabilities in his absence – such as the home loan, car loan, his family's living expenses etc.

  Another method that can be used to calculate the amount of life insurance needed is to use a multiple of annual income, say, 15 times annual income or even 20 times annual income.
- **Spouse:** a husband has insurable interest in the life of his wife and, similarly, a wife has insurable interest in the life of her husband. Both benefit from the well-being of each other and each would be adversely affected if something happens to the other. So a husband can take out life insurance cover for his wife and vice versa.
- **Children:** parents can take insurance for their children when the children are dependants. Children can also take out insurance for their parents when the parents are dependent upon them. Ganesh can, therefore, take out life insurance for his children. Similarly Ganesh's children can take out health insurance for Ganesh in his old age when he may be dependent on his children.
- **Assets:** a person has insurable interest in the assets they own because they benefit from their use and they would be adversely affected if the assets were to be damaged.

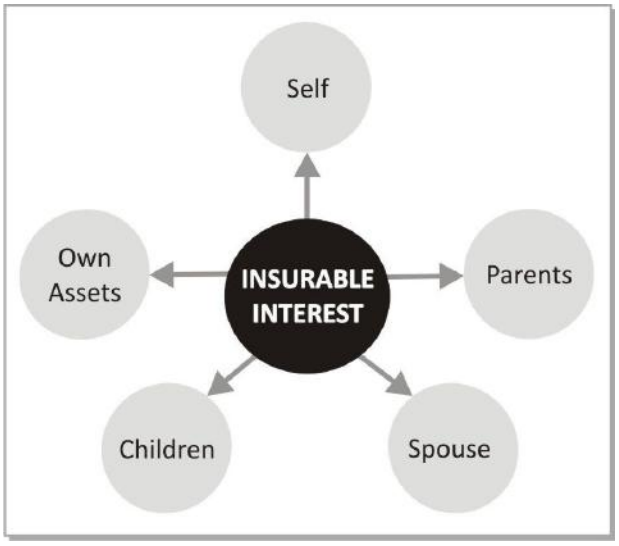

Exhibit 1.7: Existence of Insurable Interest

Other circumstances where insurable interest is deemed to exist include:

- **Creditor:** a creditor has insurable interest in the life of the debtor to the extent they have lent money to the debtor.

  Example: If Ganesh has borrowed Rs. 10,000 from Kallash, Kallash will then have insurable interest in the life of Ganesh to the extent of the loan amount lent, i.e. Rs. 10,000.

  This is because if something happens to Ganesh then Kailash will not be able to recover his Rs. 10,000 and he will have incurred a loss. So in this case Kailash can take out life insurance on Ganesh's life for up to the loan amount of Rs. 10,000.
- **Surety:** a surety has insurable interest in the life of the principal debtor and also in the life of the co-surety to the extent of the debt.
- **Employee – Employer:** an employee has insurable interest in the life of their employer to the extent of their monthly salary.
- **Employer – Employee:** employers have insurable interest in the well-being of all their employees to the extent of the value of their services, for example if an employee falls sick and remains absent from duty for a long time then it can hamper the delivery of the projects that they are working on.
- **Keyman Insurance:** a company has insurable interest in the lives of certain important people. The company can take out Keyman insurance on the lives of such people.
- **Partners:** partners in a business have insurable interests in the lives of each other.

  In life insurance, insurable interest needs to exist (be proven) at the time of taking out the policy, i.e. at the inception of the policy. In the event of a claim, insurable interest may or may not exist and is not required to be proved.

  In the case of general insurance**,** insurable interest must exist at the time of inception of the policy and also at the time of making a claim.

  DIFFERENT rules apply to marine insurance where insurable interest need only exist at the time of the claim.

Insurable Interest in case of Property Insurance and Life Insurance

(i) Property Insurance: In all types of property insurance other than marine, the insurable interest should exist at the time of inception of the risk as well as at the time of claim. Marine insurance, by its nature, is taken to cover trade related activities wherein the rights to the goods is passed on from one party another. Hence, insurable interest under marine insurance should exist at the time of claim. The person with insurable interest is the person in whom the ownership of the property vests at the time of loss.

(ii) Life Insurance: In life insurance, insurable interest should exist at the time of entering into the contract. Further, in life insurance it is the owner of the policy and not the beneficiary who should possess insurable interest. However, it is quite possible that owner and the beneficiary are the same though it is not mandatory.

Utmost Good Faith

Utmost Good Faith (Uberrimae Fidei): In all legal contracts, it is essential that the parties to the contract exercise good faith.

However, in insurance the emphasis is on utmost good faith which should be exercised by the insured. Utmost good faith must also exist for a contract of insurance, for insurance to be valid. As the insured alone has complete information about the subject of insurance, he should reveal all the facts to the insurer. In case of breach of this condition the contract becomes void abinitio.

Importance of Utmost Good Faith

The following scenario will help you to understand the principle of utmost good faith:

Example: Rajesh had taken out a term insurance policy of Rs. 50 lakhs for 20 years.

While returning home from the office one day, Rajesh had a road accident and sadly died.

Rajesh's wife Komal (as the policy nominee) made a claim with the insurance company. To Komal's surprise the insurance company rejected the insurance claim. Komal was obviously very distressed and asked for an explanation for the rejection of the claim. The insurance company had found out in its investigation that Rajesh had manipulated his proof of age documents and, in order to benefit from a lower premium, declared his age to be five years younger than he actually was. Rajesh had deliberately misled the insurance company to obtain the insurance policy at better terms. Due to this the insurance company declared the policy null and void and rejected the claim made by Rajesh's wife.

The proposer knows all the facts about themselves and has the moral responsibility to disclose all true information at the time of completing the insurance proposal form and submitting proper documents.

The age of a person is a vital criterion in deciding the premium pricing of a life insurance policy which is what Rajesh manipulated.

In many contracts for the purchase of a tangible product, each party can examine the item. Provided that one party does not mislead the other party and answers questions truthfully, there is no question of the other party avoiding the contract. In the case of buying a refrigerator, its features can be examined and switched on to check that it works properly. The rule governing the sale and purchase of goods and services is caveat emptor, or 'let the buyer beware'.

But insurance cannot work like this. We can read the policy but the only point at which we will find out how it works is when a claim is made. There is nothing to touch or see. Equally the insurance company is relying entirely upon the proposer for much of the information that it will use to decide whether it wants to accept the risk, and if it does, on what terms. The above scenario shows that the intentional suppression of a material fact is not permissible. That is why a different set of rules apply to insurance contracts and a higher duty is required called utmost good faith.

Definition of Utmost Good Faith

A positive duty voluntarily to disclose, accurately and fully, all facts material to the risk being proposed, whether requested or not.

This means that the parties to a contract must volunteer material information before the contract is concluded. The principle applies equally to both the proposer and the insurer throughout the contract negotiations, but the law sees the proposer as the main supplier of material facts to the contract.

Breach of the duty of Utmost Good Faith

Breaches of the duty of utmost good faith can be categorized as:

- **Non-disclosure**, or the omission to disclose a material fact, either inadvertently or because the proposer thought it was immaterial.

  Example: Ajay, while applying for life insurance with Company ABC, does not disclose that he had undergone surgery during his childhood. He feels it is immaterial to disclose this information to the insurance company as the surgery was done during his childhood, some 15 years ago, and he had completely recovered from the incident a long time ago.

  Concealment of a Material Fact

  Example: Ajay consumes alcohol regularly. However, before applying for life insurance he does not consume alcohol for a month, thinking that by doing so it will not be detected during the medical test and he will get insurance at better terms.

Fraudulent misrepresentation or statements made with the intention of deceiving the insurer.

Example: Ajay declares his age to be five years less than he actually is. To support this he forges the proof of age documents and submits them to the insurance company to get insurance at better terms.

Innocent misrepresentation or inaccurate statements which are believed to be true.

Duty of Disclosure

As we have explained, there is a duty to disclose material facts implicit in all insurance negotiations; this is particularly important at the proposal stage, before the contract comes into existence. The duty of disclosure is revived at each renewal date.

Insured's duty of disclosure: It is important that the proposer makes full and complete disclosure of all the material facts relating to the contract since, in the vast majority of cases, the full circumstances of the subject matter are only known to the proposer. The insured should also act towards the insurer in good faith throughout the duration of the insurance contract.

Example

- The proposer should mention all facts relating to their health. If they are suffering from any illness which may affect the insurer's decision, it must be disclosed at the time of the proposal itself.
- The proposer must declare their correct age and support it with proper proof of age documents.
- If the proposer smokes tobacco or consumes alcohol, then this should be mentioned on the proposal form.
- If the proposer has been denied insurance in the past by any company or a proposal has been accepted at a higher premium than normal, then this should be mentioned along with the reason for it, on the proposal form.

Insurer's Duty of Disclosure: The insurer also has a duty of disclosure to the insured. In order to fulfill this duty, the insurer must also behave with utmost good faith.

Example

- The insurer should make sure that it discloses all information related to the insurance product in all its literature, such as pamphlets, brochures, website etc.
- Insurance companies, for example, charge a lower premium for non-smokers compared to those for smokers.
- In the case of health insurance, at the time of renewal some companies offer a discount on the premium or increase the cover by a certain percentage keeping the premium the same, if there has been no claim made by the insured in the entire year.

Material Facts

Importance of Material Facts

Material facts can be defined as those which:

Would influence the judgment of a prudent insurer in fixing the premium or determining whether it will take the risk.

From the above definition we can see that material facts are important because they help the insurance company's underwriter to decide two things:

- Whether to accept the risk proposal or to reject it; and
- If the proposal is to be accepted, then at what price (premium) it should be accepted.

If the proposer is in any doubt about facts which may be considered material, they should disclose them, regardless of whether there is a specific question on the proposal form. This is because the proposer alone is in possession of the full facts and these must be presented to the insurer when the insurer is underwriting the business.

Any facts which render the risk greater than normal are clearly material, as are those that explain the exceptional nature of a risk, or suggest some special motive for insurance.

Consequences of Non-disclosure: If the insured is in material breach of the duty of disclosure, the insurer may avoid the contract entirely, ab initio (from the beginning). In other words, no claims are payable. If the non-disclosure is fraudulent (often termed 'concealment') the insurer may keep the

premium. The legal rule is that non-disclosure arises and gives grounds for avoidance by the second party to the contract (the insurer) where a fact is:

- Within the knowledge of the first party (the insured);
- Not known to the second party (insurer); or
- Calculated, if disclosed, to induce the second party to enter the contract at terms they consider to be better, or not to enter the contract at all.

Indisputability Clause (Section 45)

As specified in section 45 of the Insurance Act, in the first two years of the policy, if the insurance company comes to know that some material fact has not been disclosed by the proposer, it can declare the policy to be null and void. The insurance company can also keep all the premiums paid. This right can be enforced by the insurance company only during the first two years of the policy. After two years, fraud must be established by the insurance company if it wishes to make the policy void. This clause is referred to as the 'indisputability' clause and applies to life insurance.

Life Insurance: Duty of Disclosure

In the case of life insurance, the duty of disclosure arises at the time of proposal up until the time the risk is accepted by the insurance company and the policy cover has commenced.

Example

Scenario 1: Arjun took out a whole of life policy from an insurance company at the age of 30. At the time of completing the proposal form Arjun declared all the material facts. Five years later Arjun is diagnosed with diabetes. Even if Arjun does not disclose this fact to the insurance company it will not affect his policy cover in any way as it happened five years after the policy cover has started. If Arjun's policy lapses and he revives the policy then, at the time of reviving it, the insurance company may ask him to disclose all material facts again.

Scenario 2: At the age of 35 Arjun wants to take out another policy (term insurance) but he is now a diabetic. This time while making the proposal, in accordance with the principle of utmost good faith, Arjun will have to disclose that he is suffering from diabetes.

Based on the disclosures made by Arjun, the insurance company will assess his proposal and may decide to accept or reject the risk. If the company decides to accept the risk it will advise Arjun of the premium it requires.

If Arjun does not disclose that he is suffering from diabetes and the insurance company finds out about this fact 6 month later, it may declare the policy to be null and void keep all the premiums paid by Arjun to date.

Subrogation

Subrogation is the legal substitution of one person in another's place. Subrogation means "stepping into the shoes" of another person. In insurance it implies if the insured has any rights against third parties, the insurer on payment of the claim takes over these rights. This is a corollary to the principle of indemnity and enforcing the principle of subrogation ensures that the principle of indemnity is upheld. In insurance, subrogation gives the insurer the right to collect from a third party; any rights which the insured has against such a third party, after paying the insured's claim(s). A typical case of subrogation arises in automobile insurance claims.

Suppose Satish is responsible for the collision of his car with Rahul's car. Rahul may sue Satish for damages or he may collect money from his own automobile insurance. If he chooses to collect money from his own insurance, his insurance company will be subrogated to his right to sue Satish (insurance company replaces Rahul). Rahul cannot collect money for his loss both from his insurer and from Satish.

Subrogation does not exist in life insurance because life insurance is not a contract of indemnity. Thus, if Mr. Rahul Kumar is killed by his neighbor's negligence, Mrs. Kumar may collect whatever

damages a court will award for her husband's wrongful death. She may also collect the life insurance proceeds. The life insurer is not subrogated to the liability claim and cannot sue the negligent party.

Doctrine of Subrogation

The doctrine of subrogation is a corollary to the principle of indemnity. According to it, when an insured has received full indemnity in respect of his loss, all rights and remedies which he has against third person will pass on to the insurer and will be exercised for his benefit until he (the insurer) recoups the amount he has paid under the policy. It must be clarified here that the insurer's right of subrogation arises only when he has paid for the loss for which he is liable under the policy and this right extend only to the rights and remedies available to the insured in respect of the thing to which the contract of insurance relates. Under the doctrine of subrogation the party seeking to enforce the rights of another is called the subrogee; the party whose rights the subrogee is enforcing is called the subrogor. A very simple (and common) example of subrogation would be as follows:

C drives a car negligently and damages A's car as a result.
A, the insured party has Collision insurance and claims (i.e., asks for payment) under his policy against B, his insurer.
B pays in full to have A's car repaired.
B then sues C for negligence to recoup some or all of the sums paid out to A.
B receives the full amount of any amounts recovered in the action against C up to the amount to which B indemnified A. A retains none of the proceeds of the action against C except to the extent that they exceed the amount that B paid to A.

If A were paid in full by B and still had a claim in full against C, then A could recover "twice" for the same loss. The basis of the law of subrogation is that when B agrees to indemnify A against a certain loss, then A "shall be fully indemnified, but never more than fully indemnified ... if ever a proposition was brought forward which is at variance with it, that is to say, which will prevent A from obtaining a full indemnity, or which will give to A more than a full indemnity, that proposition must certainly be wrong."

B will normally (but not always) have to bring the claim in the name of A. Accordingly, in situations where subrogation rights are likely to arise within the scope of a contract (i.e. in an indemnity insurance policy) it is quite common for the contract to provide that A, as subrogor, will provide all necessary cooperation to B in bringing the claim.

In simple words, according to the doctrine of subrogation, the insurer, after indemnifying the insured for his loss in full, steps into the shoes of the insured and is subrogated to all the alternative rights and remedies which the insured has against the third persons, until he (the insurer) recoups the amount he has paid under the policy. In case something more is recovered under subrogation rights, the excess shall belong to the policyholder because the insurer is entitled to the assured rights in respect of the subject-matter insured, in so far as he has indemnified the assured (Attorney General Vs Glen Line Ltd.).

The following points should be noted in connection with the doctrine of subrogation:

1. The doctrine will not apply until the assured has recovered a full indemnity in respect of this loss from the insurer. If the amount of the insurance claim is less than actual loss suffered, the assured can keep the compensation amount received from any third party with himself to the extent of deficiency, and if after full indemnification there remains some surplus he will hold it in trust for the insurer, to the extent the insurer has paid under the policy.
2. The insured should provide all such facilities to the insurer, which may be required, by the insurer for enforcing his rights against third parties. Any action taken by the insurer is generally in the name of the insured, but the cost is to be borne by the insurer.
3. The insurer gets only such rights, which are available to the insured. He gets no superior rights than the assured. As such the insurer can recover under this doctrine, only that which the assured could have recovered.

Contribution

Where there are two or more insurance on one risk, the principle of contribution comes into play. The aim of contribution is to distribute the actual amount of loss among the different insurers who are liable for the same risk under different policies in respect of the same subject matter. Any one insurer may pay to the insured the full amount of the loss covered by the policy and then become entitled to contribution from his co-insurers in proportion to the amount which each has undertaken to pay in case of loss of the same subject-matter.

In other words, the right of contribution arises when:

(i) There are different policies which relate to the same subject-matter.
(ii) The policies cover the same peril which caused the loss.
(iii) All the policies are in force at the time of the loss.
(iv) One of the insurers has paid to the insured more than his share of the loss.

***Note*:** The principle of 'indemnity' 'subrogation' and 'contribution' does not apply to life insurance contracts.

Average: Average means that the claim would be paid on average basis in case of 'under-insurance'. The condition of "average" is there to maintain equity between the insured and the insurer if the amount of insurance is less than the value at risk. This condition is to discourage under insurance.

Average Formula: (Sum Assured / Value at the time of Loss) × Actual Size

Aleatory Contract

Aleatory contract is a contract wherein the performance of one or both the parties is based on the occurrence of an event. Such insurance contracts may be a boon to one party but create a major loss for the other, as more in benefits may be paid out than actual premiums received, or vice versa (a large amount is paid by way of claim where as the amount received as premium is very small, or when there is no claim, the entire premium is retained without any outflow to the insured).

A contract in which the consideration or monetary value between the parties to the contract is not equal. In the case of insurance contracts, the insured or policyholder pays a premium and may collect nothing from the insurer if no loss occurs. On the other hand, if a loss does occur, the insured or policyholder may collect considerably more than the amount of the premium.

Contract of Adhesion

A contract drafted by one party and offered on a take-it-or leave-it basis or with little opportunity for the offeree to bargain or alter the provisions.

Contracts of adhesion typically contain long boilerplate provisions (any text that is or can be reused in new contexts or applications without being changed much from the original.) in small type, written in language difficult for ordinary consumers to understand.

The wordings of the insurance policy are written by the insurer and the insured either accepts the contract in full or rejects it but cannot modify it. Because of the one sided nature of the contract, the courts interpret the policy wordings and clauses, in case of any ambiguity, in favor of the insured.

Insurance policies are usually considered contracts of adhesion because they are drafted by the insurer and offered without the consumer being able to make material changes. As a result, courts generally rule in favor of an insured if there is an ambiguity in policy provisions.

Unilateral Contract

Insurance contracts are unilateral in nature as only the insurer can be held accountable in a court of law. In unilateral contracts, the requirement that acceptance be communicated to the offeror is waived. The offeree accepts by performing the condition, and the offeree's performance is also treated as the price or consideration, for the offeror's promise.

In simple words, when a contract is enforceable by law on one party only and the second party is free to continue with the contract or leave the contract then the contract is said to be a unilateral contract.

The most common type of unilateral contract is the insurance contract. The insurance company promises to pay the insured a stated amount of money on the happening of an event if the insured pays premiums; note that the insured does not make any promise to pay the premiums.

Principle of Proximate Cause / Causa Proxima:

The rule is "causa proxima non remota spectatur" i.e., the proximate or immediate and not the remote cause are to be looked into. This is a principle of insurance states that the insurer is liable only for those losses which have been proximately caused by the peril insured against. In other words, in order to make the insurer liable for a loss, the nearest or immediate or last cause is to be looked into, and if it is the peril insured against, the insured can recover. This is the rule of "Causa Proxima". Insurers are not liable for remote causes and remote consequences even if they belong to the category of insured perils. The question, which is the causa proxima of the loss can only arise where there has been a succession of causes. When the result has been brought about by two causes, you must in the insurance law, look to the nearest cause, although the result, no doubt, would not have happened without the remote cause. The cause which is truly proximate is that which "Proximate in Efficiency" is. The law will not allow the assured to go back in the succession of causes to find out what is the original cause of loss.

Example 1: In a marine policy, the goods were insured against damage by sea-water. Some rats on board bored a hole in a zinc pipe in the bath which caused sea-water to pour out and damage the goods. The underwriters contented that as they had not insured against the damage by rats they were not bound to pay. It was held that the proximate cause of damage being sea-water the insured was entitled to damages, the rats being the remote cause (Hamilton vs. Pandr of). If the loss is caused by the operation of more than one peril simultaneously and if one of the perils is an accepted (uninsured) one, the insurer shall be liable to the extent of the effects of insured peril, if it can be separately ascertained. The insurer will not be liable at all if the effects of the insured peril and the excepted one cannot be separated.

Example 2: Suppose a personal accident policy is issued to a person who met with an accident while driving his motor-cycle in the night. He fell from his motor cycle into a drain and due to his injury he could not manage to come out till morning. Since he remained in water through out the night he contacted cold and fever for which he was admitted in a hospital. While taking the treatment of cold and fever he was infected with a disease from the person on the next bed and died. In the above example the proximate cause of his death is infection, and accident is the remote cause. Hence the claim is not payable.

Suppose in the above example if he was not infected with some other disease and instead had died due to cold and fever the proximate cause of his death is the accident due to which he fell into the drain and got infected with cold and fever. Hence the claim would have become payable.

The principle of causa proxima applies mostly in fire and marine insurances; it is applicable in the life insurance as well because in 'personal accident policies' the proximate cause of the death should be accident. In case of natural death, the insurer is not liable thereon.

RISK MANAGEMENT

Most definitions stress two points:

i. Risk management is concerned primarily with pure risk and
ii. Managing pure risks

Stages of Risk Management - Two Stages

i. **Risk Identification** - until a risk is identified as a threat, it cannot be managed.
ii. **Risk Measurement/Evaluation** - is essential to decide on the appropriate method of dealing with the risk.

The process of risk identification and evaluation/ measurement is called Risk Analysis.

Risk Identification

Consists of

- Risk perception - ability to perceive that there is an exposure to risk.
- Identification of causes which can lead to a loss and its effect.

Whether the risk is actually a threat? How it might be caused? What perils would be involved? What are the likely consequences?

Tools of Risk Identification

i. Exposure check list - this is simply a listing of common exposures. It is good to prepare a list of exposures that is the peril to which the business is exposed to.
ii. Event analysis is a technique for considering likely events which could cause problems and then investigating the causes and effects. This technique uses as its starting point a particular loss producing event such as fire. Use of Hazard Logic Trees which is a method in which the various hazards which can increase the risk and increase the chance of operation of a peril is drawn, so that it is possible to identify the cause of and event which would produce a loss.
iii. Fault Tree Analysis - It highlights situations which may present no risk on themselves but which could endanger the organization if they were to exist together. E.g. If flammable vapours are produced in a chemical factory, this might not be a hazard in itself. However, if it is exposed to electrical spark or ignited cigarettes, the hazard is enhanced.
iv. Hazards and Operability Studies - this technique is used at the planning stage of process plants in order to identify and eliminate potential causes of failure. It consists of posing of the repeated question "what would happen if ……." at every stage.
v. Dow Index - Dow Chemicals in the USA developed a system for identification and evaluation of fire and explosion hazard potential based on the study of many plant accidents. The technique is to:
    - List all materials in the operation
    - Identify the dominant substance in terms of quality and hazard
    - Quantify the hazards according to heats of combustion, decomposition or reaction
    - Apply DOW rating factors.

    For e.g. in a factory manufacturing chemicals, as a first step, all the materials used in the plant are listed, once the listing is done, the chemicals which are most hazardous are identified. The next step is to evaluate each chemical in terms of its various attributes to understand the risks to which it is most susceptible to. Once these are done, the rating which has been developed by DOW is applied. In this way the risk is identified and classified.
vi. Safety Audit – fire plus explosion safety, accident precaution, products safety, statistical analysis of experience, contingency plan, final report with recommendation and time bound implement-tations. To be done internally or by an outsider consultant.
vii. Flow charts - A flow chart of the entire process is drawn and risks the process is exposed to is identified.
viii. Site visits - standard of maintenance and housekeeping which have a bearing on exposure to losses arising out of fire, explosion etc. are analyzed.

Risk Measurement / Evaluation

Once the risks are identified, the risk manager must evaluate them. Evaluation implies some ranking in terms of importance. In the case of loss exposures, two facts must be considered:

1. Possible frequency or probability of loss
2. Possible severity of loss

Measuring Probability is difficult due to:

- Risks facing a company are not of a kind where the numbers of possible outcomes are known for certain.
- Therefore, statistical probability cannot be exactly calculated.

- What can be done is to calculate a probability of future occurrences based on information about the past.
- The probability arrived at will never be more than an estimate.

Two important conclusions

i. Better the record keeping of past occurrences of a similar kind, better the measurement of a particular risk is likely to be.
ii. Catastrophic events happen so infrequently compared to small losses. The measurement of the probability of such events is likely to be least exact.

While measuring probability, severity must not be ignored as the effect of a risk is most important to risk manager. The most accurate determination of the probability of a fire occurring is of little use if the prediction does not distinguish between a trivial fire and one which destroys the factory.

Measuring Severity

Purpose is to locate a risk in the scale of risks facing an organization.

Risks facing any organization can be categorized as:

Trivial - effects can be borne by organization as part of normal operations.
Minor - effects can be born within a single accounting period.
Major - effects would be too great for the organization to bear in a single accounting period, but which could be acceptable if spread over a period of time.

Catastrophe - effects would destroy the organization.
The divisions between these categories can be expressed in financial terms and there tends to be an inverse ratio between size of a risk and its frequency.

Risk Occurrence

- Catastrophe Rare
- Major Infrequent
- Minor Fairly Frequent
- Trivial Frequent

Risk Avoidance

Risk avoidance is the most drastic method of dealing with risks. Whereas other methods are aimed at reducing the potential impact of risks, either by reducing loss probabilities or reducing financial consequences, risk avoidance results in total elimination of exposure to loss due to specific risk. But it is most limited in practical application because it involves abandoning some activity and so losing the benefits that may accompany it. It is a negative rather than a positive approach.

Depending on the type of risk involved risk avoidance can be achieved by:

- Changing the activity which brings about risk.
- Changing materials used in the activity.
- Changing the method by which the activity is done.

Plan for risk avoidance at planning stages - saves expenses, disruption of business etc.

Risk Reduction

Risk avoidance is limited in scope. A more common approach is risk reduction. Risk reduction may relate either to the probability or severity and may take effect before, during or after a loss.

Stage Technique Aim

Pre Loss Preventive - eliminate cause of loss Reduce Probability.

During Loss Protection - salvaging to preserve as much as possible of the value of damaged property or ability of injured person

Post Loss

1. Protecting things or persons exposed to damage or injury.
2. To limit loss to as small a compass as possible.

Reduce Severity

All forms of risk and loss reduction will involve the following:

1. Physical Devices
   (i) Active devices which continually operate to reduce the probability of a loss producing event occurring - e.g. thermostats on boilers and refrigerating equipment, overload switches on electrical equipment.
   (ii) Passive devices like security and fire alarm, sprinklers, automatic fire door etc.
2. Organizational measures - structure and responsibility geared towards risk control goals.
3. Education and training of employees.
4. Management education and training - to create awareness of the risk to which the organization is exposed and of the ways in which they may be controlled.
5. Contingency planning - prepares the organization for 3 phases:
   (i) Pre-loss - emphasis on ways of preventing the risk from producing its effects and ensuring that those effects are minimized if loss occurs.
   (ii) At the time of loss - main concern is to save life and salvage property and to bring the disaster to end as quickly and as safely as possible, so as to limit its effects.
   (iii) Post loss - a recovery plan to be implemented to bring the organization back to its normal pre-loss level of operations as quickly as possible.

Risk Transfer

1. Transfer of the activity that creates the risk.
2. Transfer of financial losses arising from the occurrence of the risk e.g. subcontracting hazardous activities - transfer of liability to contractor etc.

Transfer of liability risks by contract, is by exclusion clause, hold harmless clause or indemnity clause.

This contract for transfer of risks is entered into by the parties to the contract whereby one party is relieved of his responsibility for loss/damage for which he is responsible under common law.

For e.g. an owner of a building is responsible for any damages to the building and has to incur expense to rectify it. He may enter into a contract with the tenant whereby the tenant takes over the responsibility for damages to the property.

Exclusion clause-clauses that relieves one party of the liabilities that he may otherwise incur towards the other.

Hold Harmless clause - a contract usually written such that one party assumes legal liability on behalf of another party.

Indemnity clause – contract to indemnify one party for losses sustained in lieu of consideration received.

Risk Financing

After risk is identified, measured and treated appropriately, the question of financing the risk arises:

Options

1. Pay for losses as they arise out of operating budgets with no specific financial provision being made.
2. Set up internal contingency fund to meet loss.
3. Borrow to meet cost of losses - from subsidiaries.
4. Risk transfer by insurance.

Risk Retention

Factors influencing risk retention decision

1. Risk Appetite of the organization - management philosophy, size of company etc.
2. Nature and size of risk
3. External incentives and disincentives - this refers to the incentive which a company derives for retaining risk or disincentive for transferring risk. For e.g. some of the rating agencies from Japan

do not confer quality rating to a company if the company avails loss of profit insurance. Loss of profit insurance is an insurance where losses in revenue sustained due to stoppage of business due to an insured peril is covered.

If such coverage is taken, it implies (as per the rating agencies) that the insured does not have an alternative plan to continue with production and cannot commence operations within a short period of time from an unforeseen event.

Loss Forecasting

Loss forecasting is necessary to enable the risk manager to make an informed decision about whether to retain or transfer loss exposures.

The risk manager will be unable to evaluate an insurance coverage bid unless he or she has a handle on what the loss levels are most likely to be and the reliability of the estimate.

Using past losses alone to predict future losses is not wise.

While past losses may have some bearing upon future losses, conditions may have changed.

The company may have sold-off or acquired new operations, expanded into new markets, or altered production processes.

There may be other exposures that produce losses this year that did not produce losses in the past.

While past losses may be helpful, additional information should also be considered.

Based on the forecast, the risk manager may believe that an insurance bid is too high and opt for retention, or that the insurance bid is low relative to the expected losses and opt for risk transfer.

The risk manager may employ several techniques to forecast losses.

Probability analysis, regression analysis, and forecasting using loss distributions may be employed.

Concept of Probability

Probability is a measure of how likely it is that some event will occur; a number expressing the ratio of favorable cases to the total number of cases possible. In other words, Probability is the proportion of times that such an outcome is observed to occur in an infinitely large number of independent events.

Mathematical Interpretation:

$$\text{Probability} = \frac{\text{No. of favorable outcomes}}{\text{No. of total outcomes}}$$

The maximum value of any probability is 1 and event with a probability of 1 is called a certainty. The minimum value of a probability is 0 and is called as impossibility.

Therefore, as the probability of an outcome approaches either end of the scale, the degree of uncertainty as to its occurrence diminishes.

Hence, the probability of an event will range from 0 to 1

i.e. 0 ≤ probability of occurrence of any event ≤ 1

Important Points to remember:

- Probability can't be less than zero or negative.
- Probability can't be greater than 1.
- Probability of certain event = 1
- Probability of uncertain event ranges from 0 to 1.
- Probability of impossible event = 0

Example: Memento-mori is a good example of certain event as it means the death is certain. Now if we calculate the probability that an individual will die.

It is certain that he will die one day.

In this case,

No of favorable outcomes that he will die is = 1

Total no. outcomes = 1

Required probability = 1/1 = 1

Calculating the probability of loss occurrence is not as simple as in the case of coin tossing experiment. Firstly, there can be a large number of outcomes. Secondly, the outcomes may be dependent on some other outcome and may complicate the probability calculations. For a given event, different outcomes will have different probabilities ranging between 0 and 1. Insurers are interested in knowing the probability of each outcome or a set of outcomes.

This can be made available to insurers either through a table or a graph. This table or graph is called probability distribution.

Example: Assuming, Rakesh an expert in stock market say that there is a 3 to 2 chance that the Tata Steel Stock market price will increase during the next fortnight. This means that there is a 60% chance that the market price of Tata Steel Stock will increase and a 40% chance that it will not increase during the next fortnight.

The above said judgment can be represented in the form of a probability distribution as follows:

Outcome	Probability
Tata Steel Stock Market Price will increase	0.60
Tata Steel Stock Market Price will not increase	0.40

Illustration: Based on the state of the economy (Boom, Normal, Recession), Tata Steel stock may provide a return of 40%, 30%, 10%. Another stock Suzlon being more volatile / fluctuating may earn a return of 30%, 15%, and -10%. Also the chances that the economy is in Boom, Normal and Recession are 30%, 50%, and 20% respectively.

The Probability Distributions of the Rate of Return on Suzlon and Tata Steel Stocks can be shown as:
State of the Probability of Rate of Return (%)

Economy	Occurrence	Tata Steel	Suzlon
Boom	0.30	40	30
Normal	0.50	30	15
Recession	0.20	10	–10

Example: A company owns 1000 vehicles for its motor transport business and over the past years it has kept careful records of its accidents. Of the 1000 vehicles, 400 were not involved in any accidents, 300 were involved in one accident, 150 in two, 100 were in three and 50 were in four accidents during the year. This information can be displayed in a frequency distribution as follows:

Number of Accident	Number of Vehicles
0	400
1	300
2	150
3	100
4	50
Total	100

The above mentioned distribution can also be presented as mentioned below:

Number of Accident	Relative Frequency
0	40%
1	30%
2	15%
3	10%
4	5%
Total	100%

The manager can now see that 10% of his fleet had three accidents, 30% had one accident and so on. The relative frequencies can also be looked upon as probability statements.

Risk Management Plan

Construction of a Plan: Once the risk exposure is identified and analyzed, the next step is to take a decision on the combination of measures which an enterprise wishes to adopt to minimize or eliminate the risk. This is done by putting up an appropriate risk management plan. The plan should clearly state the various techniques of risk management adopted with regard to various risks. The plan for a shop may state that:

(a) The measures for risk reduction such as putting up fire extinguishers, warning boards etc.
(b) Risk avoidance measures such as undertaking not to sell crackers, cigarettes etc.
(c) Risk transfer measures such as availing Fire, Burglary, Money Insurance d) Risks retained; such as, since the employees are highly trusted, the insured decides not to avail of fidelity polices

Implementation of a plan: Once the risk management plan is adopted, the next step is to implement it. The plan so adopted should be economical, efficient and should be constantly updated.

Monitoring the Plan: The risk management program does not end with the implementation of a plan. The success of the plan has to be constantly monitored, the outcome should be reviewed.

Risk Management and Social welfare: From a societal point of view, risky activities and risk management process should be arranged to minimize the total cost of risk for society. This cost is the aggregate-for all members of society-of the costs of losses, loss control, loss financing, internal risk reduction, and residual uncertainty. By reducing and minimizing the total cost of risk in society would maximize the value of social resources.

Minimizing the total costs of risk for society produces an efficient level of risk. Expressed in terms of the cost of pure risk, efficiency requires that loss control, loss financing, and internal risk reduction be pursued until the marginal reduction in the expected cost of losses and residual uncertainty equals the marginal cost of these risk management methods.

Greater total wealth allows greater opportunity for governments to transfer income from parties that are able to pay taxes to parties that need assistance.