

FINAL
Elective Paper 20B

Risk Management in Banking and Insurance

Study Notes
SYLLABUS 2022



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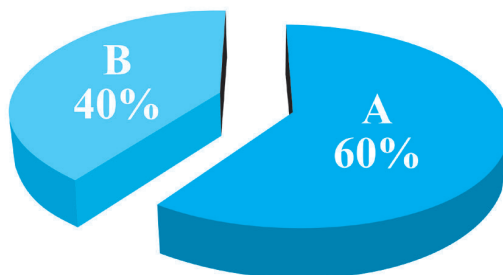
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PAPER 20B: RISK MANAGEMENT IN BANKING AND INSURANCE

Syllabus Structure

The syllabus in this module comprises the following topics and study weightage:

Module No.	Module Description	Weight
Section A: Risk Management in Banking		60%
1	Introduction to Risk Management	5%
2	Interest Rate Risk and Market Risk	15%
3	Credit Risk and Liquidity Risk	15%
4	Sovereign Risk and Insolvency Risk	10%
5	Operational Risk and Off-Balance Sheet Risk	15%
Section B: Risk Management in Insurance		40%
6	Introduction to Insurance Business	10%
7	Insurance Intermediaries, General Insurance, Health Insurance and Life Insurance	15%
8	Managing Risk in Insurance Business	15%



Learning Environment - Paper 20B

Subject Title	RISK MANAGEMENT IN BANKING AND INSURANCE
Subject Code	RMBI
Paper No.	20B
Course Description	<p>The subject focuses on risk management in two most important financial services namely banking and insurance.</p> <p>In its first segment, the subject concentrates on risk management in banking organisations. Accordingly, it covers, in detail, the fundamental concepts associated with risk and its management with added emphasis on the banking sector. It offers a detail coverage of each individual type of risks faced by a bank and discusses the techniques used by banks for measurement, monitoring and mitigation of risks. It also highlights the regulatory framework of BASEL III in this context.</p> <p>In its second segment, the subject offers a detail coverage of fundamental concepts associated with risk management in insurance. It discusses about the general structure and administration of an insurance company which act as the potential source of risk. Finally, it highlights the types of risks indigenous to an insurance company and techniques for managing the same.</p>
CMA Course Learning Objectives (CMLOs)	<ol style="list-style-type: none"> 1. Interpret and appreciate emerging national and global concerns affecting organizations and be in a state of readiness for business management. <ol style="list-style-type: none"> a. Identify emerging national and global forces responsible for enhanced/varied business challenges. b. Assess how far these forces pose threats to the status-quo and creating new opportunities. c. Find out ways and means to convert challenges into opportunities 2. Acquire skill sets for critical thinking, analyses and evaluations, comprehension, syntheses, and applications for optimization of sustainable goals. <ol style="list-style-type: none"> a. Be equipped with the appropriate tools for analyses of business risks and hurdles. b. Learn to apply tools and systems for evaluation of decision alternatives with a 360-degree approach. c. Develop solutions through critical thinking to optimize sustainable goals. 3. Develop an understanding of strategic, financial, cost and risk-enabled performance management in a dynamic business environment. <ol style="list-style-type: none"> a. Study the impacts of dynamic business environment on existing business strategies. b. Learn to adopt, adapt and innovate financial, cost and operating strategies to cope up with the dynamic business environment. c. Come up with strategies and tactics that create sustainable competitive advantages. 4. Learn to design the optimal approach for management of legal, institutional, regulatory and ESG frameworks, stakeholders' dynamics; monitoring, control, and reporting with application-oriented knowledge. <ol style="list-style-type: none"> a. Develop an understanding of the legal, institutional and regulatory and ESG frameworks within which a firm operates. b. Learn to articulate optimal responses to the changes in the above frameworks. c. Appreciate stakeholders' dynamics and expectations, and develop appropriate reporting mechanisms to address their concerns.

	<ol style="list-style-type: none"> 5. Prepare to adopt an integrated cross functional approach for decision management and execution with cost leadership, optimized value creations and deliveries. <ol style="list-style-type: none"> a. Acquire knowledge of cross functional tools for decision management. b. Take an industry specific approach towards cost optimization, and control to achieve sustainable cost leadership. c. Attain exclusive knowledge of data science and engineering to analyze and create value.
Subject Learning Objectives [SLOB(s)]	<p>A. Risk Management in Banking:</p> <ol style="list-style-type: none"> 1. To develop a detail understanding of the fundamental concepts of risk and risk management including available strategies for managing and mitigating risks. (CMLO 1a, b) 2. To understand the types of risk faced by banks and the processes followed by banks for managing and mitigating risks (CMLO 1c) 3. To understand the role of regulations in bank risk management and ongoing enhancements brought about in contemporary Basel norms. (CMLO 2a, b) <p>B. Risk Management in Insurance:</p> <ol style="list-style-type: none"> 1. To develop an understanding of the fundamental concepts of and issues associated with risk management in insurance. (CMLO 1a, b) 2. To develop a detail understanding of the general structure and administration of an insurance company to better identify the sources of risk and categorise various types of risks. (CMLO 1c) 3. To equip students with application-oriented knowledge to design a risk management program and various risk control and mitigation measures in insurance business. (CMLO 2a, b)
Subject Learning Outcome [SLOC(s)] and Application Skill [APS]	<p>A. Risk Management in Banking SLOC(s)</p> <ol style="list-style-type: none"> 1. Students will be able to identify the risks faced by Banks and understand the methodologies adopted by Banks for identification, measurement, monitoring and mitigation of risk. 2. They will be able to critically analyse different risk management frameworks being used in the bank and evaluate how far the same comply with global best practices and the Basel Guidelines. 3. They will be able to synthesise prior learning including the use of research techniques to address complex risk management approaches used by banks. <p>APS</p> <ol style="list-style-type: none"> 1. Students will acquire necessary skills to participate in the process of risks management and prepare various internal reports on risk management in bank and insurance companies at various hierarchical levels of the organisation. 2. They will acquire skill sets to prepare risk management related systems and processes, ensure compliance of prescribed norms and periodical reporting thereof to internal and external stakeholders. <p>B. Risk Management in Insurance Companies SLOC(s)</p> <ol style="list-style-type: none"> 1. Students will be able to apply knowledge of different risks management approaches for insurance operations. 2. They will be able to critically analyse different risk management frameworks being used in the insurance companies and evaluate how far the same comply with global best practices. 3. They will be able to integrate prior knowledge to address complex risk management approaches in insurance companies.
	<p>APS</p> <ol style="list-style-type: none"> 1. Students will equip themselves with necessary skills to develop risk management related systems and processes, ensure compliance of prescribed norms and periodical reporting thereof to internal and external stakeholders.

Module wise Mapping of SLOB(s)			
Module No.	Topics	Additional Resources (Research articles, books, case studies, blogs)	SLOB Mapped
Section A: Risk Management in Banking			
1	Introduction to Risk Management	<ol style="list-style-type: none"> 1. Risk Management in Banking – Joel Bessis 2. Analyzing Banking Risk – Hennie van Greuning, Sonja BrajovicBratanovic. 3. Banks at Risk: Global Best Practices in an Age of Turbulence – Peter Hoflich. 4. https://www.rbi.org.in/ 	To develop a detail understanding of the fundamental concepts of risk and risk management including available strategies for managing and mitigating risks.
2	Interest Rate Risk and Market Risk	<ol style="list-style-type: none"> 1. Balancing the Banks: Global Lessons from the Financial Crisis-Mathias Dewatripont, JeanCharles Rochet, JeanTirole. 2. Understanding Systemic Risk in Global Financial Markets – Aron Gottesman, Michael Leibrock. 3. https://www.iibf.org.in/ 	<ol style="list-style-type: none"> 1. To understand the types of risk faced by banks and the processes followed by banks for managing and mitigating risks. 2. To understand the role of regulations in bank risk management and ongoing enhancements brought about in contemporary Basel norms.
3	Credit Risk and Liquidity Risk	<ol style="list-style-type: none"> 1. Credit Risk Management for Indian Banks – K.Vaidyanathan. 2. Risk Management in Indian Banking Sector: Special Emphasis on the Compliance with Basel III Accord – Prajakta Prabhune. 3. Risk Management in Indian Banks - Dr. K.M. Bhattacharya. 4. Derivatives and Risk Management – Madhumathi /Rangatham. 5. https://bankingschool.co.in/ 	
4	Sovereign Risk and Insolvency Risk	<ol style="list-style-type: none"> 1. Risk Management – Indian Institute of Banking and Finance. 2. Advance Bank Management – Indian Institute of Banking and Finance. 3. https://www.bis.org/ 	

5	Operational Risk and Off-Balance Sheet Risk	<ol style="list-style-type: none"> 1. Bank Financial Management – Indian Institute of Banking and Finance. 2. Treasury, Investment and Risk Management – Indian Institute of Banking and Finance. 3. https://icmai.in/Banking_Insurance/ 	
Section B: Risk Management in Insurance			
6	Introduction to Insurance Business	<ol style="list-style-type: none"> 1. Risk Management Practices among Banks in India: An Empirical Study: Focus: Risk Management Framework in Banks – Richa Verma Bajaj. 2. A Study of Risk Management Practices in Public and Private Sector Banks – N. Fathima Thabassum. 3. https://www.insuranceinstituteofindia.com/web/guest 	To develop an understanding of the fundamental concepts of and issues associated with risk management in insurance.
7	Insurance Intermediaries, General Insurance, Health Insurance, and Life Insurance	<ol style="list-style-type: none"> 1. Insurance Principles & Practice – Sb Mishra MnMishra. 2. Insurance in India – Dr.S.K. Bali. 3. https://www.irdai.gov.in/Defaulthome.aspx?page=H1 	To develop a detail understanding of the general structure and administration of an insurance company to better identify the sources of risk and categorise various types of risks.
8	Managing Risk in Insurance Business	<ol style="list-style-type: none"> 1. Life Insurance Underwriting– Insurance Institute of India. 2. Health Insurance –Insurance Institute of India. 3. Practice of General Insurance – Insurance Institute of India. 4. https://www.iirmworld.org.in/ 	To equip students with application-oriented knowledge to design a risk management program and various risk control and mitigation measures in insurance business.

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- 1.4 Risk Management - Concept and Approaches
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SECTION - A

Risk Management in Banking

Introduction to Risk Management 1

This Module includes:

- 1.1 Concept of Risk**
- 1.2 Risk vs. Uncertainty**
- 1.3 Types of Risk**
- 1.4 Risk Management - Concept and Approaches**
- 1.5 Risk Management Strategies**

Introduction to Risk Management

SLOB Mapped against the Module

To develop a detail understanding of the fundamental concepts of risk and risk management including available strategies for managing and mitigating risks. (CMLO 1a, b)

Module Learning Objectives

Banks are in the business of taking the risk for profit, this differs from other industries. Without good risk management, banks would fail with disastrous consequences. This Chapter has been designed to provide an easy-to-understand overview of the following areas that form the foundation of risk management in banking:

- ⦿ Risk vs. Opportunity.
- ⦿ Main Risk Types can result in a Profit or Loss.
- ⦿ Introduction to Credit Risk, Liquidity Risk.
- ⦿ Introduction to Market Risk, Interest Rate Risk.
- ⦿ Introduction to Operational Risk.

Introduction

1

Risk management in banks has changed substantially over the past ten years. The regulations that emerged from the global financial crisis and the fines that were levied in its wake triggered a wave of change in risk functions. These included more detailed and demanding capital, leverage, liquidity, and funding requirements, as well as higher standards for risk reporting, etc. The management of nonfinancial risks became more important as the standards for compliance and conduct tightened. Stress testing emerged as a major supervisory tool, in parallel with the rise of expectations for bank risk-appetite statements. Banks also invested in strengthening their risk cultures and involved their boards more closely in key risk decisions. They also sought to further define and delineate their lines of defense. Given the magnitude of these and other shifts, most risk functions in banks are still amid transformations that respond to these increased demands. In 2007, no one would have thought that risk functions could have changed as much as they have in the last thirteen years. It is a natural temptation to expect that the next decade has to contain less change.

In future, risk functions in banks will likely need to be fundamentally different than they are today. As hard as it may be to believe, the next ten years in risk management may be subject to more transformation than the last decade. And unless start to act now and prepare for these longer-term changes, they may be overwhelmed by the new requirements and demands they will face. The structural trends that are driving many of these substantial shifts stem from multiple sources. Regulation will continue to broaden and deepen as public sentiment becomes less and less tolerant of any appearance of preventable errors and inappropriate business practices. Simultaneously, customers' expectations of banking services will rise and change as technology and new business models emerge and evolve. Risk functions will also have to cope with the evolution of newer types of risk (e.g., model, contagion, and cyber) all of which require new skills and tools.

Fortunately, evolving technology and advanced analytics are enabling new products, services, and risk-management techniques, while de-biasing approaches that improve decision-making will help risk managers make better choices about risks. However, the risk function of the future will probably be expected to deliver against all these requirements and deal with these trends at a lower cost, because banks will in all likelihood have to reduce their operating costs substantially. In the future, it is likely to have broader responsibilities, to be very engaged at a strategic level, and to have much stronger, collaborative relationships with other parts of the bank. At the same time, its talent pool will probably have experienced a massive shift in expertise toward better analytics and greater collaboration, and away from operating processes. Most of the latter can reasonably be expected to be automated, real-time, and paperless by then.

IT and data will likely be much more sophisticated, often employing big data and complex algorithms. As a result, the risk function may be able to make better risk decisions at lower operating costs while creating superior customer experiences. If banks want their risk functions to thrive during this period of fundamental transformation, they need to rebuild them during the next decade. To be successful, they need to start now with a portfolio of initiatives that balance a strong short-term business case with enabling the long-term achievement of the target vision. Such initiatives could include digitizing the underwriting processes, the use of machine-learning techniques,

and interactive risk reporting. They should be complemented by enablers such as a shift in recruiting toward more technology-savvy profiles or the introduction of data lakes. However, to succeed, this transformation could also require a shift in the organizational risk culture, the adoption of an approach that embeds shared and communicated values and principles throughout the organization.

Introduction to Risk Management

Speaking, risk management is the process of minimizing or mitigating the risk. It starts with the identification and evaluation of risk followed by optimal use of resources to monitor and minimize the same.

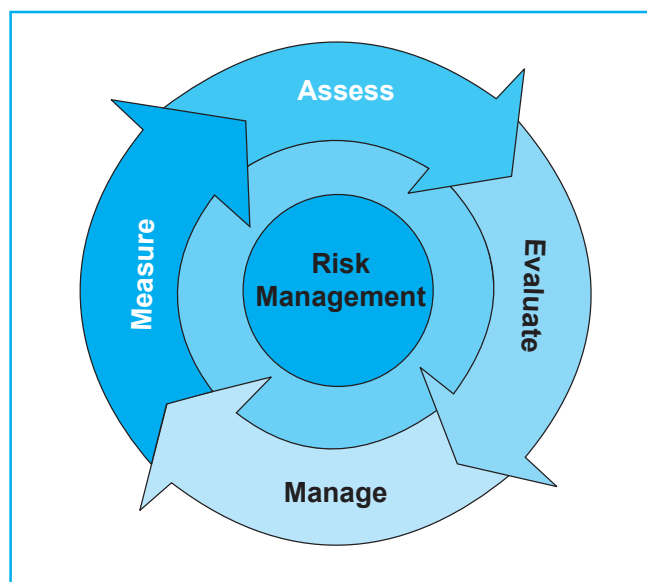
Risk generally results from uncertainty. In organizations, this risk can come from uncertainty in the marketplace (demand, supply, and Stock market), failure of projects, accidents, natural disasters, etc. There are different tools to deal with the same depending upon the kind of risk.

Ideally in risk management, a risk prioritization process is followed in which those risks that pose the threat of great loss and have a great probability of occurrence are dealt with first. The below Table refers to the Impact of Risk and Actions required:

IMPACT	ACTIONS		
SIGNIFICANT	Considerable Management Required	Must Manage and Monitor Risks	Extensive Management essential
MODERATE	Risk is bearable to a certain extent	Management effort worthwhile	Management effort required
MINOR	Accept Risks	Accept but monitor Risks	Manage and Monitor Risks
	LOW	MEDIUM	HIGH
	LIKELIHOOD		

The above chart can be used to strategize in various situations. The two factors that govern the action required are the probability of occurrence and the impact of the risk. For example, in a condition where the impact is minor and the probability of occurrence is low, it is better to accept the risk without any interventions. In a condition where the likelihood is high and the impact is significant, extensive management is required. This is how a certain priority can be established in dealing with the risk.

Apart from this, typically most organizations follow a risk management cycle as mentioned below:



According to this cycle, there are four steps in the process of risk management. The first step is the assessment of risk, followed by evaluation and management of the same. The last step is measuring the impact.

Risk identification can start at the base or the surface level, in the former case, the source of problems is identified. We now have two things to deal with the source and the problem.

Risk Source: The source can be either internal or external to the system. External sources are beyond control whereas internal sources can be controlled to a certain extent. For example, the amount of rainfall, weather over an airport, etc!

Problem: A problem at the surface level could be the threat of accident and casualty at the plant, a fire incident, etc.

When any or both of the above two are known beforehand, certain steps can be taken to deal with the same.

After the risk/s has been identified then it/they must be assessed on the potential of criticality. Here we arrive upon risk prioritization. In generic terms 'likelihood of occurrence × impact' is equal to risk.

This is followed by the development of a risk management plan and implementation of the same. It comprises effective security controls and control mechanisms for the mitigation of risk.

A more challenging risk to organizational effectiveness is the risk that is present but cannot be identified. For example, a perpetual inefficiency in the production process accumulates over a certain period and translates into operational risk.

Banks in the process of financial intermediation are confronted with various kinds of financial and non-financial risks viz., credit, interest rate, foreign exchange rate, liquidity, equity price, commodity price, legal, regulatory, reputational, operational, etc. These risks are highly interdependent and events that affect one area of risk can have ramifications for a range of other risk categories. Thus, top management of banks should attach considerable importance to improving the ability to identify, measure, monitor, and control the overall level of risks undertaken.

The broad parameters of risk management function should encompass:

- i. Organizational structure;
- ii. Comprehensive risk measurement approach;
- iii. Risk management policies approved by the Board which should be consistent with the broader business strategies, capital strength, management expertise, and overall willingness to assume risk;
- iv. Guidelines and other parameters used to govern risk taking including the detailed structure of prudential limits;
- v. Strong MIS for reporting, monitoring, and controlling risks;
- vi. Well laid out procedures, effective control, and comprehensive risk reporting framework;
- vii. Separate risk management framework independent of operational Departments and with clear delineation of levels of responsibility for the management of risk; and
- viii. Periodical review and evaluation.

Concept of Risk

1.1

The Oxford Dictionary of Word Origin states the following on risk:

“We know well enough what the immediate source of word risk was. The English borrowed French *risque* in the 17th century. That, in turn, came from the Italian *rischo*, which was based on the Latin verb *rischare* meaning to ‘run into danger’ ”.

Risk-taking comes naturally to banks. Banks engage themselves in the process of financial intermediation by taking risks to earn more than what they pay to the depositors. A risk is an event or injury that can cause damage to an institution’s income and/or reputation. It is like energy that cannot be created or destroyed but can only be passed on or managed.

There is a direct relationship between risk and reward and the quest for profit maximization has given rise to accelerated risk-taking for enhanced rewards. Whatever be the type of risk, the impact is primarily financial. Ultimately risk manifests in the form of loss of income and reputation.

Each bank as well as every banker needs to understand and appreciate that risk is unavoidable. The existence and quantum of risk associated with each transaction cannot be ascertained with certainty.

Whatever models have been developed for risk management, are primarily based on observed occurrences of the past, which may or may not be repeated in the future. Risk is inherent to the business. Since it cannot be eliminated, it has to be managed.

Banking is intermediation for funds. Intermediation involves risk. To make profits and earn a spread, the banker takes a position in the investment market or loan business. It is a risk that leads to some profits. As said earlier there is a close relationship between risk and reward. There are many reasons for business firms/companies to take risks primary need is profit motivation. Risks are of different types but have certain common characteristics.

Financial Risk has to be differentiated from loss. Normally, the risks involved in the business are fairly known. The risk is probabilistic and generic. Risks in financial markets are events that are likely to happen. The uncertainty is more in respect of time of risk and its impact.

There is nothing that can be completely failing or succeeding hundred percent. There is always a chance element reflected in probability. The risk is generic. For example, one can make a statement that “the possibilities of chemical units in a particular industrial area succeeding are minimal”. No one can state with certainty that a particular chemical unit would succeed or fail.

Risks are ascertainable, although not always quantifiable. Risk has a direct relationship with the return, i.e., higher the risk higher the return, and vice versa. Precisely because of this, risks are needed for the conduct of business. The types of risks discussed below are interrelated; they are collectively exhaustive but not mutually exclusive.

Risk is associated with every business activity. It is more prominent and pronounced in respect of the financial sector in general and banks in particular. In a repressed financial system, the risk is not apparent. Risk management

in such a situation may not be well organized. With globalization, the unorganized efforts towards risk management have now been substituted by systematic and formal policy endeavours.

New concepts like ‘anticipate/prevent/ monitor mitigate’ have substituted the earlier ethos of ‘inspect/ detect/ react’. The emphasis is now more on processes and not on people alone. The changed scenario for risk management has thrown up many challenges for banks. In this background, it would be interesting to understand various types of risk in a banking environment.

Risk is defined as an event hurting profitability and/or reputation due to several distinct sources of uncertainty. The managerial process must capture both the uncertainty and potential adverse impact on profitability and/or reputation.

Risk is a part of any business’s dictionary, and understanding and subsequently managing it is the most important concern. In banking as well, the risk is inherent in the business. Given the importance of risk management, it is no wonder that it is today receiving scrutiny from the world’s top banking regulators.

Bank of International Settlements (BIS), the Federal Reserve in the United States, the Bundesbank in Germany, and the Reserve Bank of India have indicated their concern at the risk-taking activities of banks.

These regulatory bodies have expressed concern since not only the environment has become a lot riskier with exchange rates and interest rates being extremely volatile, but a large amount of bank capital has been spread internationally seeking returns.

Banks’ exposure to Asian and Latin American countries’ corporates is extremely high in comparison to earlier years. As currencies and corporates reel under pressure (the South Asian crisis being an example), the regulators are understandably concerned about the banks’ ability to withstand these pressures.

Add to that mix, well-publicized bank collapses (Barings) as well as losses incurred on account of faulty option pricing models (NatWest Markets) it is no wonder that there has been a slew of regulations covering capital and reporting requirements.

Organizations and institutions like banks put tangible assets (such as funds, technology, processes, and people) and intangible assets such as reputation, brand, and information) at risk to achieve their objectives.

Whether the organization is for-profit, or not-for-profit the task of management is to manage these risks in the uncertain environment. Organizational management has thus become synonymous with risk management.

Risk management is a significant expense for any company. Several skilled professionals need to be recruited and maintained to ensure that the risks inherent in the business are being mitigated efficiently. The expense can be significant. This expense is often a deterrent for smaller firms to not implement risk management. However, the larger firms understand that the value created by risk management activities far outweighs the costs. How risk management creates value i.e., the various benefits provided by risk management are:

- (a) **Forecasts Probable Issues:** One of the benefits of risk management is that it changes the culture of a business organization. Companies that tend to focus more on risk management tend to be more proactive as compared to other companies which can be reactive. Risk management forces the companies to take a hard look at each of their business processes and decide what can go wrong. This detailed what-if analysis helps companies become more proactive and forecast probable issues.

Companies that extensively use risk management have fewer business disruptions as such issues are foreseen and taken care of at an early stage. The proactive approach is very helpful since it helps companies to identify failed projects at an early stage. The continuous feedback helps companies to decide whether investing additional money in a failed project will help it turn around or whether it is just throwing good money after bad!

- (b) **Avoiding Catastrophic Events:** Risk management prepares the companies for all kinds of shocks. Risk managers try to foresee the small shocks which affect the day-to-day business of any firm. However, they also try to focus on catastrophic events. Such events have a very low probability of occurring. However, if they do occur, then companies need to be prepared to deal with them without going bankrupt. Such events have gained prominence in recent years. These events are called “black swan” events.
- (c) **Enables Growth:** Prima facie, risk management sounds like a defensive business activity. It has a negative connotation and the assumption is that the activity is performed to avoid losses. However, during risk management, companies are forced to study their processes and risk factors in detail. The management is aware of all the possible things that can go wrong.

When new products have to be launched or when new markets have to be entered, companies have a ready framework that can be deployed to avoid these risks. Hence, in a way, risk management ends up enabling companies to take calculated risks and expedite their growth. Extensive risk management processes mean that the company has a lot of data. This data can be mined to gain meaningful insights which ultimately leads to better decisions.

- (d) **Helps to Stay Competitive:** Risk management helps companies to minimize their losses at critical times. These are the times when poorly managed companies struggle to stay afloat. On the other hand, companies that have risk management processes in place tend to minimize their loss. Hence, the competitiveness of such companies stays constant. It may improve also.

It is a known fact that when adverse events such as recessions occur, companies with better risk management practices continue to stay afloat and have a lot of cash. This is the reason that during a crisis some companies seem to have the extra cash required in order to make acquisitions. Risk management processes also force different departments as well as different stakeholders to actively communicate with each other. This communication is helpful since it increases the competitiveness of the company.

- (e) **Business Process Improvement:** The day-to-day processes of risk management force companies to collect more and more information about their processes and operations. As a result, companies can identify the parts of the process which are inefficient or where there is scope for improvement.

Risk management departments are supposed to continuously monitor the working of various departments about external entities and look for things that can go wrong. The end result is that during the process many opportunities are identified and processes are improved. Risk management processes often work hand in hand with business process reengineering and quality improvements in the process.

- (f) **Enables Better Budgeting:** Companies that have risk management processes in place have better control of their finances as opposed to other companies. This is because they often have a close look at their financial numbers and try to trim any waste. The end result is that these companies have a better knowledge of their processes. As a result, these companies also have a better knowledge of their budgets. They can create more efficient budgets wherein funds can be allocated to achieve the goals of the company in the most optimized manner possible. In such companies, budgets do not have to rely on guesswork.

The bottom line is that the risk management process is highly beneficial. In the short run, it might seem like these activities only incur additional costs. However, over time, these activities save the company significant sums of money. The benefits far outweigh the costs associated with these activities. Hence, considering them as a cost center is a myopic view that could cost the organization dearly in the long run.

Risk vs. Uncertainty

1.2

In our day-to-day life, there are many circumstances, where we have to take risks, which involves exposure to loss or danger. Risk can be understood as the potential of loss. It is not the same as uncertainty, which implies the absence of certainty of the outcome in a particular situation. There are instances, wherein uncertainty is inherent, concerning the forthcoming events, i.e., there is no idea, of what can happen next.

In the ordinary sense, the risk is the outcome of an action taken or not taken, in a particular situation that may result in loss or gain. It is termed as a chance or loss or exposure to danger, arising out of internal or external factors, that can be minimized through preventive measures.

In the financial glossary, the meaning of risk is not much different. It implies the uncertainty regarding the expected returns on the investments made i.e., the probability of actual returns may not be equal to the expected returns. Such a risk may include the probability of losing the part or whole investment. Although the higher the risk, the higher is the expectation of returns, because investors are paid off for the additional risk, they take on their investments. The major elements of risk are defined as below:

- ⊙ Systematic Risk: Interest Risk, Inflation Risk, Market Risk, etc.
- ⊙ Unsystematic Risk: Business Risk and Financial Risk.

Definition of Uncertainty

- ⊙ By the term uncertainty, we mean the absence of certainty or something which is not known. It refers to a situation where multiple alternatives are resulting in a specific outcome, but the probability of the outcome is not certain. This is because of insufficient information or knowledge about the present condition. Hence, it is hard to define or predict the future outcome of events.
- ⊙ Uncertainty cannot be measured in quantitative terms through past models. Therefore, probabilities cannot be applied to the potential outcomes, because the probabilities are unknown.

BASIS FOR COMPARISON	RISK	UNCERTAINTY
Meaning	The probability of winning or losing something worthy is known as risk.	Uncertainty implies a situation where future events are not known.
Ascertainment	It can be measured	It cannot be measured.
Outcome	Chances of outcomes are known.	The outcome is unknown.
Control	Controllable	Uncontrollable

BASIS FOR COMPARISON	RISK	UNCERTAINTY
Minimization	Yes	No
Probabilities	Assigned	Not assigned

Key Differences Between Risk and Uncertainty:

The difference between risk and uncertainty can be drawn clearly on the following grounds:

- ⦿ Risk is defined as the situation of winning or losing something worthy. Uncertainty is a condition where there is no knowledge about future events.
- ⦿ Risk can be measured and quantified, through theoretical models. Conversely, it is not possible to measure uncertainty in quantitative terms, as future events are unpredictable.
- ⦿ The potential outcomes are known in risk, whereas in the case of uncertainty, the outcomes are unknown.
- ⦿ Risk can be controlled if proper measures are taken to control it. On the other hand, uncertainty is beyond the control of the person or enterprise, as the future is uncertain.
- ⦿ Minimization of risk can be done, by taking necessary precautions. As opposed to the uncertainty that cannot be minimized.
- ⦿ In risk, probabilities are assigned to a set of circumstances which is not possible in case of uncertainty.

There is an old saying, “No risk, no gain”, so if any enterprise wants to survive in the long run, it has to take calculated risks where the probability of loss is comparatively less, and the chances of gains are higher. Uncertainty is inherent in every business which cannot be avoided, and the business person has no idea about what will happen next, i.e., the outcome is unknown.

Types of Risk

1.3

Risk is inescapable, meaning banks must do everything in their power to mitigate it. Risk management is a challenge that many banks struggle to rise to. Meeting this challenge demands a clear understanding of the different types of bank risk to look for and the technologies that will help overcome them.

Common Types of Bank Risk:

Banks face a significant amount of risk; these are the seven most common types:

Operational Risk: This refers to any risk incurred as a result of failure in people, internal processes and policies, and systems. Common examples of operational risk in banks include service interruptions and security breaches.

Market Risk: Also known as systematic risk, market risk refers to any losses resulting from changes in the global financial market. Sources of market loss include economic recessions, natural disasters, political unrest, and changes in interest.

Liquidity Risk: This refers to a bank's inability to meet its obligations, thereby jeopardizing its financial standing or even its very existence. Liquidity risks effectively prevent a bank from being able to convert its assets into cash without sacrificing capital due to insufficient interest.

Compliance Risk: Any risk incurred as a result of failure to comply with federal laws or industry regulations. Compliance risk can lead to financial forfeiture, reputational damage, and legal penalties.

Reputational Risk: As its name implies, reputational risk refers to any potential damage to a bank's brand or reputation. Banks can incur reputational risk for any number of reasons, from the actions of a single employee to the actions of the entire institution.

Credit Risk: Retail banks take a credit risk any time they lend money to a borrower without a guarantee that the borrower will be able to repay their loan. The risk itself is that the bank might incur debt as a result of such an agreement.

Business Risk: This refers to any risk that stems from a bank's long-term business strategy and affects the bank's profitability. Common sources of business risk to banks include closures and acquisitions, loss of market share, and inability to keep up with competitors.

Obstacle to Risk Management in Banks:

1. Regulatory Changes:

The financial services regulatory landscape is in a constant state of flux, with new regulations or amendments to existing regulations being handed down every month in response to political turmoil, public sentiment, emerging technology, and more. It can be challenging for banks to comply with the ever-changing rules, but comply they must, lest they expose themselves to compliance risk and the potentially severe consequences that accompany it.

Compliance risk management in banks essentially boils down to three basic steps:

- ⦿ The bank becomes aware of the regulation.
- ⦿ The bank works to understand the impact of the regulation on its core business model.
- ⦿ The bank implements the necessary changes to ensure compliance.

Although it might seem simple on its face, this process requires banks to expend a significant amount of resources, financially and otherwise. Therefore, the best way to conserve resources and achieve compliance much faster is to automate compliance risk management. Newer cloud-based developer tools and highly automated DevOps technologies reduce the adverse impact of applying frequent regulatory changes to operational systems. Comprehensive cloud-based test systems can be spun up as needed for full-scale regression tests of complex financial systems and then scaled back down to eliminate the carrying cost of idle test systems.

2. Rising Customer Expectations:

Today's customer is expert at using their personal device for tasks they would otherwise perform manually, including banking. This has led mobile banking apps to become ubiquitous—in fact, you'd be hard-pressed to find a financial institution that doesn't have a mobile app. That said, these apps are often treated as a supplement to a bank's brick-and-mortar offerings rather than a one-stop-shop. Even for more tech-savvy institutions, their mobile app often pales in comparison to that of their online banking platform. This is especially frustrating for younger customers, who are accustomed to using their phones for just about everything and expect their bank's mobile solution to be just as functional as its online platform or branch operations.

The desire for such a solution presents certain challenges:

Mobile devices offer limited screen real estate, which can make it difficult to design a user interface that's both aesthetically pleasing and easy to use. There's also the matter of security to consider; a 2017 research report revealed that mobile apps belonging to 50 of the world's 100 largest banks were vulnerable to hacking attacks.

Benefits are substantial:

A truly full-service mobile banking app not only has the power to increase customer loyalty, it also encourages more spontaneous interactions (and transactions) and enables banks to monitor customer activity. This last item is especially significant because it empowers banks to market more dynamically to individual customers based on their interests.

The key idea here is to run ads that enrich the customer experience rather than detract from it by marketing directly to their interests. By investing in a full-service mobile application, banks can deliver the level of technology and personalization that customers desire, thereby ensuring their ability to remain competitive and avoid business risk.

3. Cybersecurity Breaches:

As the financial services industry has become increasingly tech-based, cybersecurity has become part of the cost of doing business. Cybersecurity threats such as malware, phishing, and Denial of Service attacks grow more sophisticated with each passing day, to the point where legacy systems implemented before the rise of Big Data analytics are incapable of fending them off. As a result, banks' cybersecurity administrators often find themselves overwhelmed by false positives and spend a significant amount of time investigating things that aren't actual problems.

The good news is that although cyberattacks have become more sophisticated, so, too, has the technology used to combat them. Banks can now use artificial intelligence to perform rapid pattern recognition analytics across millions

of questionable activities and filter out much of the noise. This technology can also be used to automate essential cybersecurity tasks, which is a major win given the ever-growing amount of banking data that lives in the cloud and that the existing pool of cybersecurity professionals is struggling to keep up with demand. Security Information and Event Management Software (SIEM) can also help security administrators stay on top of cybersecurity risk by helping them rapidly identify and resolve problems through the power of machine learning and analytics.

4. Fraud & Identity Theft:

Similar to cybersecurity, banks' security admins are often overwhelmed by the number of false positives for fraud and identity theft. The only real difference between this bank risk and the last is that fraud and identity theft false positives are visible to customers and can interfere with customers' ability to complete transactions and, in some cases, cost them money. For this reason, false positives are a significant detriment to bank operations and detract from the overall customer experience.

Just as AI helps prevent cybersecurity breaches and false positives, it can also help with fraud and identity theft. Using AI, banks can detect potential incidents of fraud and identity theft to a far more refined degree than ever before. This has the dual benefit of preventing customers from experiencing the nightmare that is identity theft, as well as eliminating false positives. Again, this process can be automated, which streamlines security efforts and comes at huge cost savings to banks. Similarly, AI and automation can be used in conjunction to quickly detect and shut down instances of fraud, thereby protecting banks from financial exposure and reputational risk.

5. Inefficient Internal Processes:

Every year, banks need to look for ways to offset the increasing cost of operations to prevent liquidity risk or business risk. Automation and stringent practices for underwriting, servicing, and monitoring go a long way not only toward reducing costs, but also toward preventing operational risk, credit risk, and compliance risk. Automation, in particular, makes it easier for banks to achieve regulatory compliance. For example, with custom automation functions configured to meet requirements outlined in such regulations as the Beneficial Ownership Rule.

Another key way banks can save money is by utilizing cloud technology. Cloud computing can introduce efficiencies that lead to substantial cost savings, such as leveraging powerful analytics to cut costs on marketing and time to market for new products.

6. Increasing Competition:

In today's world, traditional banks face increasing competition from internet banks hungry to take market share and tech companies such as Apple, Amazon, and Google that are breaking into the finery industry. This is especially problematic for local and regional banks, which can't make up for lost customers by simply expanding their geography.

To counter this encroachment, traditional banks need to learn to interact with their customers in the same way that their non-traditional competitors do—a shift that often requires them to rethink their customer engagement strategy from the ground up. The most efficient way to get started is for banks to refresh their existing offerings and rejuvenate their portals to meet rising customer expectations. From there, it's in a bank's best interest to partner with a consulting firm and systems integrator that can introduce new technologies that will enable it to meet different challenges and evolve its business.

Risk Management – Concept and Approaches

1.4

There is a common misconception about risk management that the goal of risk management is to eliminate the risk from a business. This is not true because the elimination of risk is practically impossible. Instead, the goal of risk management is to first ensure that the organization has a clear picture of the level of risk that they are willing to undertake and then ensure that the risk remains within those limits.

There are different approaches to risk management which result in different types of outcomes for the organization involved. Hence, the organization has to choose which approach it wants to follow.

Risk and Returns:

If you ask the management of an organization whether they want to reduce the risk in their company, the answer, most probably, will be an emphatic yes! However, it needs to be understood that risk management does not work in a silo. There is a clear and direct relationship between risk and reward. Hence, if a company wants to minimize risks, there is a high chance that it will end up minimizing the rewards as well. This is where things get tricky! Certain organizations want to grow at a fast pace. Hence, by definition, they should be taking more risks to allow the organization to achieve faster growth. Companies need to be aware of this relationship between risk and reward. Having a policy of risk minimization and reward maximization can be inconsistent and can create negative outcomes.

Approaches to Risk Management:

The approaches commonly followed in the risk management process have been detailed below:

Risk Avoidance: The most basic strategy is called risk avoidance. Under this approach, the company avoids taking on risks as much as possible. However, this strategy is not viable for many companies. This is because most activities have a certain amount of risk attached. Hence, if a company simply tries to avoid taking risks, it would have to drastically reduce the scope of its activities. The result of this approach is that there is very little incentive for any activity to take place. Risk avoidance is not performing any activity that may carry risk. A risk avoidance methodology attempts to minimize vulnerabilities that can pose a threat. Risk avoidance and mitigation can be achieved through policy and procedure, training and education, and technology implementations.

For example, suppose an investor wants to buy stock in an oil company, but oil prices have been falling significantly over the past few months. There is political risk associated with the production of oil and credit risk associated with the oil company. If an investor assesses the risks associated with the oil industry and decides to avoid taking a stake in the company, this is known as risk avoidance.

There are different examples of practices that managers adopt to avoid risk. Such measures may include;

- ⦿ A company may realize that sending workers to conduct research in a hostile area may result in bodily harm to employees, which may expose the company to endangerment claims. Therefore, management may forgo such research, which may have presented enormous profit opportunities by improving efficiency.

- ⊙ A trader may realize that trading with a specific supplier exposes them to exchange rate volatility, usually seen in international business. The trader, therefore, chooses to change their supplier to one who trades using the currency the trader uses.
- ⊙ A company may choose not to invest in a war-torn country because it may cause a loss of the capital invested.

Diversification: Diversification is one of the oldest and most basic strategies in risk management. Under this approach, the company deliberately tries to engage in business activities that are very different from one another. Since the activities are very different from one another, they generally do not experience adverse business events at the same time. The result is that if some activities are facing a negative outcome, the others automatically face a positive outcome and the overall results are stabilized. The problem with this policy is that there it cannot be applied everywhere. It can only be applied in conglomerates that operate in diverse businesses. On the other hand, risk reduction deals with mitigating potential losses through more of a staggered approach. For example, suppose an investor already owns oil stocks. The two factors are political risk associated with the production of oil, and oil stocks often have a high level of unsystematic risk.

As opposed to a risk avoidance strategy, this investor can reduce risk by diversifying their portfolio by keeping their oil stocks while at the same time buying stocks in other industries, especially those that tend to move in the opposite direction to oil equities.

Risk Transfer: Another way to manage risks is to transfer risk to an external party. There are many external parties such as insurance companies who are willing to assume risks in return for a fee. However, insurance policies cannot be found for every risk. This is also where derivatives come into play. Derivatives are financial instruments where the underlying cash flow changes based on the occurrence of certain risky events. Derivatives help companies contractually transfer their risk to outside parties. It is important to realize that in these cases, the risk is not eliminated. The company still faces counterparty risk i.e., the risk that the counterparty will not pay up in case an adverse event takes place. Risk Transfer is a term used in the industry to define the concept of risk management, which means the transfer of risk, precisely future risk, from a person, being individual or corporate, to another person such that in case the event may happen/occur in the future. In a few words, it means transferring the risk of a future event, which may or may not happen, to another party.

In practical scenarios, it is very easy to relate with insurance taken for a motor vehicle. Say, Mr. Peter, has taken insurance cover for his motorbike for ₹1,00,000 cover. This insurance will be covering any physical damage to the vehicle, and roadside assistance and will be valid for a year from the date of purchase, say 31 December 2021.

Now, suppose his motorbike had some physical damage and Mr. Peter incurred an amount of ₹50,000 for the cost of repairing his motorbike. In such a case, he will be able to claim ₹50,000 from the insurance company, as his total cover for the vehicle is ₹1,00,000.

Risk Transfer by Insurance Companies: Although the risk is commonly transferred from individuals and entities to insurance companies, the insurers are also able to transfer risk. This is done through an insurance policy with reinsurance companies. Reinsurance Companies are companies that provide insurance to insurance firms.

Similar to how individuals or entities purchase insurance from insurance companies, insurance companies can shift risk by purchasing insurance from reinsurance companies. In exchange for taking on this risk, reinsurance companies charge the insurance companies an insurance premium.

Risk Retention: Risk retention is a strategy under which, the company decides to retain the risk on its books. This policy may be the result of the high cost of the transfer. Alternatively, it could also be because the company is very confident of its internal controls. Companies that have a good operational risk control process in place tend to retain risks. This is because they are confident that they will be able to manage the impact of the risk on their

own. However, a company needs to have a strong cash flow in place so that it can wither any shocks which may arise as a result of not transferring risks. Business owners face many risks in their daily operations. Typically, these risks are transferred to insurance companies by purchasing an insurance policy. Not every business chooses this risk management path, however. In many cases, businesses choose to pay their losses out of pocket instead of purchasing insurance. This is known as risk retention.

Business owners make important decisions when choosing to retain risks, and that is if they can afford to pay upfront for any loss experiences. Losses may be paid for out of current cash flows or may be covered by setting aside a reserve loss fund. If the losses are frequent enough and predictable enough, they may even be incorporated into monthly/annual budgeting.

Risk Sharing: There are hybrid approaches to risk management as well. Under these approaches, the company faces the consequences of risk up to a certain threshold level. Once the threshold level is breached, the risk gets transferred to an external party. The idea here is to make risk management cost-effective. The company may be able to bear the smaller losses. However, it will get help in the event of catastrophic losses. Since catastrophic losses are less likely, the premium to be paid for transferring these risks is less. Risk-sharing can be used as an effective strategy to obtain wider coverage at a lower cost. During a project, risk can be shared with other project participants and resources. Organizations share project risks when everyone understands deliverables and expectations clearly. In business, risk can often be shared by working closely with other business partners in a mutually beneficial partnership. Here are a few real-world examples of risk-sharing through diversity and outsourcing.

When an airline faces unforeseen cancellations that exceed its capacity, they use its contractual arrangements with other diverse competitors. The airline with cancelled customers pays an agreed-upon rate so that a single flight cancellation doesn't strand all passengers at the airport. This mitigates both the risk of losing a customer and the risk of uncertainty associated with another airline's ticket pricing.

Many governments and non-profits diversify their revenue streams to reduce the risk of sharp declines in revenue. In the government arena, the risk of plummeting tax revenue is mitigated by collecting taxes through income, property, and sales tax. Although it will still cause the government entity to suffer, the plummeting revenue will not be nearly as detrimental as having only a single revenue stream. Likewise, non-profits that rely on donations reduce risk by maintaining a diversity of donors and donor categories.

A few industries rely on a very unique way of sharing risk through diversification. Many agricultural businesses and energy companies share risk by purchasing through a co-operative. In cooperatives, many small entities pool their resources to purchase bulk goods like coal or livestock feed. By doing this, they pay much lower prices since they can buy in bulk. This shares the risk of being forced to pay higher prices than much larger competitors.

Loss Control: This strategy is used by organizations that have a certain amount of liquid assets on hand. They tend to hold on to the assets till a certain predefined threshold is reached. This threshold is often called the «stop-loss» point. Once the threshold is reached, there are automatic orders in place to sell the assets and minimize the loss. The idea behind this strategy is to ensure that assets are not sold at minor valuation differences. However, when a significant drop in valuation is detected, assets must be sold to minimize the losses.

The bottom line is that the same risk can be handled in different ways based on the underlying policy of the firm. It is important to create a policy based on the different approaches. Risk is present in every organization around the globe, which is why we believe having a formal risk management program is so important. What does that mean? It means that every organization should develop a practical way of identifying, monitoring, and managing risks that could negatively impact the organization.

The first key step is to identify the risks that arise from what we own (property), what we do (liability), and who does it (personnel). We also believe all organizations should thoroughly analyse their business risks, which can't be insured. After we have identified all we insurable risks, they should be analysed to determine the likelihood and

severity of a loss. After the identification and analysis are complete, it's time to utilize one, or a combination of, the following six essential loss control strategies aimed at reducing the possibility of a loss and/or limiting the severity.

Avoidance: By choosing to avoid a particular risk altogether, we can eliminate potential loss associated with that risk. For example, builders can choose to shut down construction operations in inclement weather; manufacturers can choose to halt production of faulty products before selling them to customers. Although risk avoidance is a simple method for controlling losses, this strategy isn't always practical because it can result in lost revenue potential.

Prevention: Accepting that certain risks are unavoidable, we can implement preventative measures to reduce loss frequency. For example, installing video surveillance cameras can prevent the frequency of theft in stores. Lowering a highway speed limit can reduce the number of automobile accidents on a specific road. Loss prevention measures break the sequence of events leading to a loss and thus make a lossless likely to occur.

Reduction: Reduction measures can be applied before and after a loss occurs to minimize the severity of potential losses. For example, erecting firewalls to limit damage from a fire is a pre-loss measure; activating a fire detection/suppression system is a post-loss measure. The physical and financial impacts of a loss are reduced by implementing this strategy.

Separation: By isolating loss exposures from one another, we can minimize the adverse effects of a single loss. For example, storing inventory at two separate warehouses will minimize losses if one facility is destroyed. Separation of exposure units can reduce a business's dependence on a single asset, activity, or person, making individual losses smaller.

Duplication: Keep backups, spares, or copies of critical property, information, or capabilities in reserve to use when a primary asset is damaged or destroyed. For example, store information on a backup server to use if the original server fails. Like separation, duplication can reduce a business's dependence on a single asset, activity, or person, making individual losses smaller.

Diversification: Spread loss exposures over numerous projects, products, markets, or regions. For example, a business can enter into different geographic markets. If one market becomes too competitive, the other markets may still generate enough profit for the business to continue operations. Diversification prevents a single event or series of events from destroying a large percentage of the organization's assets.

Loss control is necessary to ensure long-term sustainability and profitability.

Risk Management Strategies

1.5

There are three key elements to successfully managing risk:

- ⦿ Performing regularly-scheduled, comprehensive risk assessments
- ⦿ Taking a risk-based approach and focusing time and resources on high-risk areas
- ⦿ Developing and implementing programs to manage and mitigate risk

Following is a comprehensive overview of each of these strategies, and steps organizations can take to implement them.

Comprehensive Risk Assessment:

During risk evaluations, many organizations rely on risk-assessment heat maps to determine their organization's vulnerabilities. While these maps reveal high, medium, and low-risk areas within a company and the likeliness and impact of a negative event, they don't help a company determine why risk exists or which action each risk rating requires.

To receive a more informative assessment, decision-makers need to understand risk context and trends through evaluating a variety of factors, such as:

- ⦿ Root cause of the risk.
- ⦿ Likelihood of a negative event.
- ⦿ Impact of a negative event.
- ⦿ Preparedness to respond to a negative event.
- ⦿ Trajectory of risk increasing, decreasing, or flat.
- ⦿ Activities to manage or reduce risk.
- ⦿ Residual risk if mitigating activities are accomplished.
- ⦿ Description of the environment.

A thorough risk assessment that analyses these elements allows an organization to pinpoint and address risk areas based on each area's specific circumstances. It can also inspire an organization to create new mitigation strategies that help prevent or manage future exposure. New mitigation strategies can take the form of policies and procedures, systems, processes, education, and personnel.

Risk-Focused Practices:

Similar to risk assessments, there are traditional, narrow risk-focus practices that only analyse financial activities and controls. While it's critical to assess financial activities and controls, many other factors also put organizations at risk.

That's why it's important to take a broader, more comprehensive approach to risk-focus practices, addressing top risk areas throughout the financial institutions.

Address High-Risk Areas:

More comprehensive evaluations focus on higher-risk areas, include the following:

- ⦿ Cyber security.
- ⦿ Reliance on third-party service providers.
- ⦿ Credit Risk and Current Expected Credit Losses (CECL) implementation.
- ⦿ Regulatory risk, the Anti-Money Laundering law (AML).
- ⦿ Fraud.

Improve Performance:

All functional areas of financial institutions are connected, and each area has associated risks and opportunities for improving performance. Taking a more comprehensive approach to addressing an organization's risk areas allows evaluating potential issues that might otherwise be overlooked. In addition to the above risk areas, financial institutions should analyse the following elements to improve performance after a complete risk-focus assessment:

- ⦿ Governance and management. Such as leadership, development, and succession.
- ⦿ Structure and staffing. Including staffing levels, skills, training, recruiting, retention, and turnover.
- ⦿ Operational efficiency. Such as technology, internal controls, policies, and procedures.
- ⦿ Safety and security. Including fraud, waste, and abuse.
- ⦿ Processes. Such as procurement, compliance, financial reporting, and marketing.

Program Development and Implementation:

While risk assessment is important, continuing to analyse and mitigate risk following the assessment is key to the company's continued safety. The hardest part of this process may be finding the time to prioritize continued mitigation efforts.

This is where internal audits or risk management practices-depending on which functions exist within the organization can take on an expanded role to help the company:

- ⦿ Prioritize risk.
- ⦿ Develop annual internal audit programs that focus on reducing priority risks.
- ⦿ Validate management actions.
- ⦿ Track and report program implementation progress.

Implement Key Benefits:

Of course, management is ultimately responsible for implementing new ways to mitigate risk, but there are many ways internal audits or risk-management practices can help, such as:

- ⦿ Providing policy, procedure, and process best practices.
- ⦿ Guiding efforts to update policies and procedures and streamline processes.
- ⦿ Supplying training opportunities.
- ⦿ Focusing testing on areas of identified weakness.

To Sum Up:

Today, The Indian Economy is in the process of becoming a world-class economy. The Indian banking industry is making great advancement in terms of quality, quantity, expansion, and diversification and is keeping up with the updated technology, ability, stability, and thrust of a financial system, where the commercial banks play a very important role, emphasize the very special need of a strong and effective control system with extra concern for the risk involved in the business. Globalization, Liberalization, and Privatization have opened up new methods of financial transaction where the risk level is very high. In banks and financial institutions, risk is considered to be the most important factor of earnings.

Therefore, they have to balance the relationship between risk and return. In reality, we can say that management of the financial institution is nothing but management of risk. Managing financial risk systematically and professionally becomes an even more important task. Rising global competition, increasing deregulation, the introduction of innovative products and delivery channels have pushed risk management to the forefront of today's financial landscape. The ability to gauge the risks and take an appropriate position will be the key to success. It can be said that risk-takers will survive, effective risk managers will be proper, and risk-averse are likely to perish.

The risk arises due to uncertainties, which in turn arise due to changes taking place in the prevailing economic, social and political environment and lack of non-availability of information concerning such changes. Risk is an exposure to a transaction with loss, which occurs with some probability and which can be expected, measured, and minimized. In financial institutions risk results from variations and fluctuations in assets or liability or both in incomes from assets or payments and on liabilities or in outflows and inflows of cash. Today, banks are facing various types of risks that financial intermediaries are exposed to, in the course of their business.

Problem 1.

An exposure of ₹ 100 lakhs is backed by a guarantee of the state government for the full amount. There is no maturity mismatch. How much amount qualifies for Capital Adequacy?

Solution:

As State Government is a sovereign, guarantee of state govt. is an eligible credit risk mitigant. In this case, the net exposure qualifying for capital adequacy is ₹ 100 lacs as there is no maturity mismatch.

Problem 2.

An exposure of ₹ 100 lakhs is backed by financial collateral in the form of National Savings Certificates (NSCs) of ₹ 30 lakhs and eligible A+ debt securities issued by others of ₹ 50 lakhs. The residual tenor of the exposure is 3 years and the residual maturity of both the collaterals is 3 years. There is no maturity mismatch.

The weights of NSCs and A+ debt security in the basket of assets are 30% and 50% respectively. Based on residual maturity haircut applicable to NSCs is 2% and that to A+ debt security is 6%. Calculate Net exposure Pranking for Capital.

Solution:

- ⊙ Value of A+ debt security is ₹ 50 lakhs.
- ⊙ Less applicable haircut is 6% – ₹ 3 lakhs.
- ⊙ Haircut adjusted value ₹ 47 lakhs.
- ⊙ Value of NSC (no haircut) ₹ 30 lakhs.
- ⊙ Total value of securities ₹ 77 lakhs.
- ⊙ Value of Loan exposure ₹ 100 lakhs.
- ⊙ Net exposure ranking for capital (Assuming it is BBB rated carrying a Risk Weight of 100%): ₹ 33 lakhs.

Problem 3.

Computation of CRAR

Tier-I capital funds, Tier-II capital funds, RWAs for credit risk, capital charges for market risk, and capital charges for operational risk are assessed in accordance with the guidelines discussed. The capital charge for market risk and capital charge for operational risk is converted into equivalent risk-weighted assets by dividing them by 0.09 to compute RWAs for Market Risk and RWAs for Operational Risk. Tier-I CRAR and total CRAR is computed using the following formulae.

Tier-I CRAR is computed as given below: $(\text{Eligible Tier I capital funds}) \div (\text{RWAs for Credit Risk} + \text{RWAs for Market Risk} + \text{RWAs for Operational Risk})$.

Total CRAR is computed as given below: $(\text{Eligible total capital funds}) \div (\text{RWAs for Credit Risk} + \text{RWAs for Market Risk} + \text{RWAs for Operational Risk})$.

The following example would clarify the approach further. A bank has computed its Tier I capital:

₹ 1,400 Crores (inclusive of CET1 + AT1) Tier-II Capital – ₹ 1,200 Crores.

RWAs for Credit Risk: ₹ 10,000 Crores

The capital charge for Market Risk: ₹ 500 Crores

The capital charge for Operational Risk: ₹ 300 Crores

What would be the Bank's Tier-I CRAR and Total CRAR?

Solution:

RWAs for Credit Risk = ₹ 10,000 Crores

RWAs for Market Risk = ₹ 500 Crores / 0.09 = ₹ 5,556 Crores

RWAs for Operational Risk = ₹ 300 Crores / 0.09 = ₹ 3,333 Crores

Total RWAs = ₹ 18,889 Crores Tier I Capital = ₹ 140 Crores Tier II Capital = ₹ 1,200 Crores

Total Capital = ₹ 2,600 Crores Tier-I CRAR = $(\text{Eligible Tier I Capital Funds}) \div (\text{Total RWAs})$

= ₹ 1,400 Crores / ₹ 18,889 Crores

= 7.41%

Total CRAR = $(\text{Eligible Total Capital Funds}) \div (\text{Total RWAs}) = ₹ 2,600 \text{ Crores} / ₹ 18,889 \text{ Crores} = 13.76\%$.

Caselet-1:

Risk Management

A Gujarat-based Cooperative bank permitted loans amounting to ₹1,500 Crores to the Group Companies of M/s Patel and Shah Limited, against overpriced shares of Group Companies. The following modus operandi was followed by the bank in disbursing these loans:

The bank will issue pay orders to the borrower without having any real cash balance in their account or without ensuring funding requirements as necessary in case of pre-paid instruments.

M/s Patel and Shah Limited was having an account with bank B at a branch in Ahmedabad. Bank B discounted the pay order issued by the Co-operative Bank amounting to ₹ 112 Crores and presented these through a clearing house. But the Co-operative Bank failed to honour the pay order due to a lack of funds. Resultantly, the pay orders were dishonoured. The clearing house regulator put an embargo on the Co-operative Bank.

Bank B is still to recover ₹ 90 Crores from M/s Patel and Shah Limited out of a total of ₹ 112 Crores.

Later on, the investigations revealed that on the day of failure to make payment by the cooperative Bank, 65% of the pay orders discounted by Bank B belonged to the cooperative Bank.

Bank B now holds its manager responsible for inadequate management control.

It is also found that around 65% of total loans given by the said Co-operative Bank were restricted to 12 entities.

The collapse of the said Co-operative Bank had a chain reaction in other cooperative banks.

Based on the above facts, answer the following questions:

1. Bank B's loss of ₹.90 Crores in discounting the pay orders falls under:
 - a) Credit Risk.
 - b) Operational Risk.
 - c) Market Risk.
 - d) Combination of Credit Risk and Operational Risk.
2. Cooperative Bank's outstanding loans to M/s Patel and Shah Limited group were more than 38% of their Capital Funds. Such high exposure to a single group by a bank is against the regulatory guidelines to avoid:
 - a) Concentration Risk.
 - b) Systematic Risk.
 - c) Funding Risk.
 - d) Reputation Risk.
3. RBI is hesitant, for the time being, to put an embargo or ordered the liquidation of the said Co-operative Bank, as it could lead to possible:
 - a) Legal Risk.
 - b) Systemic Risk.
 - c) Counterparty Risk.
 - d) Liquidity Risk.
4. As per existing guidelines of RBI, the Co-operative Bank was required to disclose its exposure to Capital Market under the heading of:
 - a) Segmental Reporting.
 - b) Transaction with related parties.
 - c) Exposure to sensitive sectors.
 - d) Maturity pattern of assets and liabilities.

Answers:

1.	(d)	2.	(a)	3.	(b)	4.	(c)
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Explanations:

- ⊙ Question-1: Credit risk because it involves borrowing. Operational risk because of staff negligence.
- ⊙ Question-2: Major portion of the advances related to one group.
- ⊙ Question-3: Systemic risk means the risk of failure of a banking system due to the failure of a major bank.
- ⊙ Question-4: Banks are submitting information to RBI on sensitive sector advances such as capital market exposure, commodity exposure, etc.

Caselet-2:

International Bank has come out with a policy for its branches for acceptance of deposits and granting of advances. its branches have taken deposits and allowed loans as under:

1. One of its branches accepted a deposit of ₹ 10 Lacs. which is to double in 10 years. These funds have been invested by the bank in a 3 Years Bond carrying an interest rate of 13%. Which of the following kind of risks the bank is facing:
 - a) Yield Curve Risk.
 - b) Embedded Options Risk.
 - c) Basis Risk.
 - d) Reinvestment Risk.
2. The deposits, as well as advances, are linked by the bank to the floating rate. The bank has been facing:
 - a) Real Interest Rate Risk.
 - b) Basis Risk.
 - c) Re-investment Risk.
 - d) Volatility Risk.
3. A branch has given a loan out of deposits at a floating rate. The rate of interest on deposit has been linked by the bank with 91 days treasury bill rate and for the loan, it is linked to 364 days treasury bill rate. The risk from such a situation is called:
 - a) Gap or Mismatch Risk.
 - b) Interest Risk.
 - c) Yield Curve Risk.
 - d) Basis Risk.
4. The bank has advised its branches that while sanctioning a term loan, they must put a condition that premature payment will not be accepted in any circumstances. By putting this condition, the bank has avoided which type of interest rate risk?
 - a) Yield Curve Risk.
 - b) Embedded Options Risk.
 - c) Mismatch Risk.
 - d) Basis Risk.
5. The depositors at times, tend to withdraw the deposits before maturity, which leads to----.
 - a) Yield Curve Risk.

- b) Embedded Options Risk.
- c) Basis Risk.
- d) Reinvestment Risk.

Answers:

1.	(d)	2.	(b)	3.	(c)	4.	(b)	5.	(b)
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Explanations:

- ⊙ Question-1: The bank has accepted a deposit with a maturity of 10 years, but the investment has to be rolled over after 3 years and will pose the reinvestment risk.
- ⊙ Question-2: Where the interest rate of different assets and liabilities may change in different magnitudes such interest rate risk, is called basis risk.
- ⊙ Question-3: Where the interest rates on deposits and advances can vary and not necessarily identically, the yield curve risk arises.
- ⊙ Question-4: Embedded option risk is the risk associated with the right given to the borrower to pre-pay their loans or the right given to their depositors, to withdraw the deposit before maturity.
- ⊙ Question-5: Embedded option risk is the risk associated with the right given to the borrower to pre-pay their loans or the right given to their depositors, to withdraw the deposit before maturity.

Caselet-3:

Mumbai branch of Popular Bank granted a term loan of ₹ 2 Crores to a reputed corporate client for 6 years at 2% + Base rate.

Presently, the base rate of the bank is 10%. The loan will be repaid by the company in 20 equal quarterly installments with a moratorium period of 6 months. The loan has been funded by the bank out of fixed deposit @ 7% fixed rate of interest, of equal amount, with a maturity period of 4 years. The CRR and SLR are to be ignored for any calculations.

1. In this case, the loan is carrying a floating rate and the deposit is carrying a fixed rate. If the rate of interest is reduced during the first 4 years i.e., during the period of FDR, what type of risk, the bank is exposed to:
 - a) Funding Risk.
 - b) Embedded Options Risk.
 - c) Basis Risk.
 - d) Gap or Mismatch.
2. The rate of interest at the end of 4 years on a loan and the fresh deposit to be raised for funding this loan can be different. This is called:
 - a) Reinvestment Risk.
 - b) Embedded Option Risk.
 - c) Basis Risk.
 - d) Gap or Mismatch.
3. With quarterly repayment of the loan, the repayment amount has to be deployed by the bank elsewhere and the rate of interest may not be at par with the interest being charged on the loan. Due to this, the bank is exposed to:
 - a) Reinvestment Risk.

- b) Embedded Option Risk.
 - c) Basis Risk.
 - d) Gap or Mismatch.
4. There is a possibility that the company may prepay the loan or the depositor may withdraw the deposit prematurely. Due to this, the bank is exposed to:
- a) Reinvestment Risk.
 - b) Embedded Option Risk.
 - c) Basis Risk.
 - d) Gap or Mismatch.
5. Which of the following other risk is not associated with this transaction:
- a) Liquidity Risk.
 - b) Market Risk.
 - c) Credit Risk.
 - d) Operational Risk.

Answers:

1.	(c)	2.	(d)	3.	(a)	4.	(b)	5.	(b)
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Explanations:

- ⊙ Question-1: If a change in interest rate is of a different magnitude, for an asset and its funding liability, such risk is called basis risk.
- ⊙ Question-2: The gap or mismatch risk arises when the cost of funding does not match the return on funds and the bank finds it difficult to fund the investment gainfully.
- ⊙ Question-3: Reinvestment risk is the risk on account of a lack of opportunities to invest the funds at an acceptable rate of return
- ⊙ Question-4: Embedded risk represents a situation where the counterparty is given the option to terminate the transaction before the fixed price of the contract.
- ⊙ Question-5: Market risk is associated with the trading book items. Hence the market risk is not associated with this transaction. Other risks are possible.

Caselet-4:

International Bank has a Paid-up Capital of ₹ 100 Crores, Free Reserves of ₹ 300 Crores, Provisions and Contingencies Reserves of ₹ 200 Crores, Revaluation Reserve of ₹ 300 Crores, Perpetual Non-cumulative Preference Shares of ₹ 400 Crores, and Subordinated Debt of ₹ 300 Crores. The Risk-Weighted Assets for Credit and Operational Risk are ₹ 10,000 Crores and for Market Risk ₹ 4,000 Crores. Based on the above information, answer the following question:

1. What is the amount of Tier-1 Capital?
- a) ₹ 900 Crores.
 - b) ₹ 800 Crores.
 - c) ₹ 750 Crores.
 - d) ₹ 610 Crores.

2. Calculate the amount of Tier-2 capital:
 - a) ₹ 900 Crores.
 - b) ₹ 800 Crores.
 - c) ₹ 750 Crores.
 - d) ₹ 610 Crores.
3. Calculate the amount of capital fund:
 - a) ₹ 890 Crores.
 - b) ₹ 1,210 Crores.
 - c) ₹ 1,410 Crores.
 - d) ₹ 1,610 Crores.
4. What is the capital adequacy ratio of the bank?
 - a) 9%.
 - b) 9.65%.
 - c) 10.05%.
 - d) 10.07%.
5. What is the amount of minimum capital to support credit and operational risk?
 - a) ₹ 900 Crores.
 - b) ₹ 950 Crores.
 - c) ₹ 1,000 Crores.
 - d) ₹ 1,250 Crores.
6. What is the amount of minimum Tier 1 and Tier 2 to support the Credit and Operational Risk?
 - a) ₹ 900 Crores, ₹ 900 Crores
 - b) ₹ 600 Crores, ₹ 900 Crores
 - c) ₹ 450 Crores, ₹ 450 Crores
 - d) ₹ 300 Crores, ₹ 450 Crores
7. What is the amount of Tier-1 Capital fund, to support Market Risk:
 - a) ₹ 450 Crores.
 - b) ₹ 350 Crores.
 - c) ₹ 250 Crores.
 - d) ₹ 185 Crores.
8. What is the amount of Tier-2 capital fund, to support Market Risk:
 - a) ₹ 450 Crores.
 - b) ₹ 350 Crores.
 - c) ₹ 250 Crores.
 - d) ₹ 160 Crores.

Answers:

1.	(b)	2.	(d)	3.	(c)	4.	(d)
5.	(a)	6.	(c)	7.	(b)	8.	(d)

Explanations:

- ⊙ Question-1: Tier-1 = Capital + Free Reserves + Perpetual Non-cumulative Preference Shares = ₹ 100 Crores + ₹ 300 Crores + ₹ 400 Crores = ₹ 800 Crores.
- ⊙ Question-2: Tier II = Provisions and Contingencies Reserves Maximum 1.25% of Risk Weighted Assets + Revaluation Reserve at 45% Discount + Subordinated Debts = ₹ 175 Crores + ₹ 135 Crores (₹ 300 x 45%, at 55% Discount) + ₹ 300 Crores = ₹ 610 Crores.
- ⊙ Question-3: Tier-1 = Capital + Free Reserves + Perpetual Non-cumulative Preference Shares = ₹ 100 Crores + ₹ 300 Crores + ₹ 400 Crores = ₹ 800 Crores. Tier II = Provisions and Contingencies Reserves Maximum 1.25% of Risk Weighted Assets + Revaluation Reserve at 55% Discount + Subordinated Debts = ₹ 175 Crores + ₹ 135 Crores (₹ 300 x 45%, at 55% Discount) + ₹ 300 Crores = ₹ 610 Crores.
Total Capital Fund = ₹ 800 Crores + ₹ 610 Crores = ₹ 1,410 Crores.
- ⊙ Question-4: ₹ 1,410 Crores / ₹ 14,000 Crores = 10.07%
- ⊙ Question-5: ₹ 10,000 Crores x 9% = ₹ 900 Crores.
- ⊙ Question-6: Tier 1 = ₹ 10,000 Crores x 4.5% = ₹ 450 Crores.
Tier-2 = ₹ 10,000 Crores x 4.5% = ₹ 450 Crores.
(Tier 2 capital fund cannot be more than Tier I)
- ⊙ Question-7: Total Tier 1 - Minimum Tier 1 for Credit and Operational Risk = ₹ 800 Crores - ₹ 450 Crores = ₹ 350 Crores.
- ⊙ Question-8: Total Tier 2 - Min. Tier 2 for Credit and Operational Risk = ₹ 610 Crores - ₹ 450 Crores = ₹ 160 Crores.

Exercise

A. Theoretical Questions

⊙ Multiple Choice Questions

1. Which of the following is not a type of risk in the Banking Sector?
 - (a) Credit Risk
 - (b) Operational Risk
 - (c) Market Risk
 - (d) Account Risk
2. Operational Risk is the risk of -----.
 - (a) When borrowers or counterparties fail to meet contractual obligations.
 - (b) The unpredictability of equity markets, commodity prices, interest rates, and credit spreads.
 - (c) Loss due to errors, interruptions, or damages caused by people, systems, or processes.
 - (d) All of the above.
3. When the risk of losses in on- or off-balance sheet positions arising from movement in market prices, it is called as -----.
 - (a) Operational Risk
 - (b) Market Risk
 - (c) Liquidity Risk
 - (d) Account Risk
4. “Payments credited to the wrong account” is an example of which Risk?
 - (a) Credit Risk
 - (b) Operational Risk
 - (c) Market Risk
 - (d) Liquidity Risk
5. The risk that arises from the possibility of non-payment of loans by the borrowers is known as-
 - (a) Credit Risks
 - (b) Market Risks
 - (c) Moral Hazard
 - (d) Business Risk
6. _____ risk arises because the financial system is one intricate and connected network.
 - (a) Credit
 - (b) Operational
 - (c) Market Risk
 - (d) Systemic

Risk Management in Banking and Insurance

7. The major component of Market risk is-----.
- (a) Interest rate risk
 - (b) Equity risk
 - (c) Commodity risk
 - (d) All of the above
8. When a bank's image and public standing is in doubt and leads to the public's loss of confidence in a bank, it is called as-----.
- (a) Reputational risk
 - (b) Moral Hazard
 - (c) Operational risk
 - (d) None of the above
9. Legal Risk is known as-----.
- (a) When the actions can lead to the entire financial system coming to a standstill.
 - (b) When there is a financial loss to the bank arising from legal suits filed against the bank or by a bank for applying a law wrongly.
 - (c) When a bank chooses the wrong strategy or follows a long-term business strategy which might lead to its failure.
 - (d) All of the above
10. _____ risk is the potential loss due to changes in the value of a bank's assets or liabilities resulting from exchange rate fluctuations.
- (a) Interest rate.
 - (b) Equity.
 - (c) Foreign exchange.
 - (d) Commodity.

Answers:

1.	(d)	2.	(c)	3.	(b)	4.	(b)	5.	(a)
6.	(d)	7.	(d)	8.	(a)	9.	(b)	10.	(c)

Interest Rate Risk and Market Risk 2

This Module includes:

- 2.1 Interest Rate Risk Management**
- 2.2 Market Risk Management**

Interest Rate Risk and Market Risk

SLOB Mapped against the Module

To understand the types of risk faced by banks and the processes followed by banks for managing and mitigating risks (CMLO 1c)

Module Learning Objectives

This reading is an introduction to the process of measuring and managing market risk. Market Risk is the risk that arises from movements in stock prices, interest rates, exchange rates, and commodity prices. In essence, market risk is the risk arising from changes in the markets to which an organization has exposure. This Chapter has been designed to provide an easy-to-understand overview of the following areas that form the Interest Risk and Market Risk in Banks:

- Explain the use of value at risk (VaR) in measuring portfolio risk.
- Demonstrate how equity, fixed-income, and options exposure measures may be used in measuring and managing market risk and volatility risk.
- Describe the use of sensitivity risk measures and scenario risk measures.
- Explain how risk measures may be used in capital allocation decisions.

Introduction

2

Interest rate risk is an integral part of the banking business, and may even be a source of profit. Nevertheless, abnormal levels of interest rate risk may expose banking businesses to losses and even pose a threat to their capital. The management of interest rate risk is therefore critical to the stability of any banking business.

It is essential that banking businesses have a comprehensive risk management process in place that effectively identifies, measures, monitors, and controls interest rate risk exposures, and that is subject to appropriate board and senior management oversight.

The instructions issued by RBI in this regard are to be used in the management of interest rate risk management per se, irrespective of whether the positions are part of the trading book or the banking book. Nevertheless, given the importance of interest rate risk in the banking book, the RBI directive specifically includes instructions that address interest rate risk in the banking book.

The requirement imposed on all banking businesses to allocate adequate capital against all the risks in their business, including interest rate risk i.e., “Capital Adequacy Assessment”.

Interest Rate Risk Management

2.1

Interest rate risk is the exposure of a bank's financial condition to adverse movements in interest rates. Accepting this risk is a normal part of banking and can be an important source of profitability and shareholder value. However, excessive interest rate risk can pose a significant threat to a bank's earnings and capital base. Changes in interest rates affect a bank's earnings by changing its net interest income and the level of other interest-sensitive income and operating expenses. Changes in interest rates also affect the underlying value of the bank's assets, liabilities, and off-balance-sheet (OBS) instruments because the present value of future cash flows (and in some cases, the cash flows themselves) change when interest rates change. The market value of an asset or liability is conceptually equal to the present value of current and future cash flows from that asset and liability. Therefore, the rising interest rates increase the discount rate on those cash flows and decrease the market value of that asset or liability. Conversely falling interest rates increase the market value of assets or liabilities. Moreover, mismatching maturities by holding longer-term assets than liabilities means that when interest rates rise, the market value of assets falls by a greater amount than liabilities. This exposes the bank to the risk of economic loss and potentially the risk of insolvency.

Interest rate risk refers to volatility in Net Interest Income (NII) or in variations in Net Interest Margin (NIM), i.e., NII divided by Earning Assets due to changes in interest rates. In other words, interest rate risk arises from holding assets and liabilities with different principal amounts, maturity dates, or repricing dates, i.e., rollover rates.

Accordingly, an effective risk management process that maintains interest rate risk within prudent levels is essential to the safety and soundness of banks. Most of the banks have already identified interest rate risk as a drag on their profitability and have started assessing the magnitude of interest rate risk embedded in their balance sheets.

Interest rate risk is broadly classified into mismatch or gap risk, basis risk, net interest position risk, embedded options risk, yield curve risk, price risk, and reinvestment risk.

2.1.1 Concept

Till 1970, the regulatory restrictions on banks greatly reduced many of the risks in the financial system. The deposits were taken in at mandatory rates and loaned out at legally-established rates. Interest rates, therefore, remained unaffected by market pressures. The phrase '3-6-3' i.e., bankers bring in short-term deposits at 3%, lend long at 6% and be home for the day by 3 p.m. became a common reference for the bankers. In the 50s and 60s, banks considered only the credit and liquidity risks as major constraints on profitability. Deregulation of the banking system in the 70s, however, got many bankers unprepared to manage interest rate risk to which their institutions were suddenly exposed. Many bank failures in the world during the 70s, 80s, and 90s were triggered out of poorly managed interest rate risk. Many financial institutions funded their long-term fixed assets with short-term volatile liabilities. So long as deposits and lending rates remained regulated, such funding mismatches were not at all a problem. However, today insulating interest spread against frequent interest rate changes has become the major strategic objective of banks' management.

The deregulation of the financial system in India has put in place a lot of operational freedom to the financial institutions and the pricing of various assets and liabilities has been left to their commercial judgment. The earning of assets and the cost of liabilities are therefore closely related to the interest rate volatility. Thus, interest rate risk, a term unknown to the banking industry in India has suddenly become relevant.

Interest Rate Risk in the Banking Book:

Interest rate risk in the banking book (IRRBB) refers to the current or prospective risk to the bank's capital and earnings arising from adverse movements in interest rates that affect the bank's banking book positions. When interest rates change, the present value and timing of future cash flows change. This in turn changes the underlying value of a bank's assets, liabilities, and off-balance sheet items and hence its economic value. Changes in interest rates also affect a bank's earnings by altering interest-rate-sensitive income and expenses, affecting its net interest income (NII). Excessive IRRBB can pose a significant threat to a bank's current capital base and/or future earnings if not managed appropriately.

Three main sub-types of IRRBB potentially change the price/value or earnings/costs of interest-rate-sensitive assets, liabilities, and/or off-balance sheet items in a way, or at a time, that can adversely affect a bank's financial condition.

1. Gap risk arises from the term structure of banking book instruments and describes the risk arising from the timing of instruments' rate changes. The extent of gap risk depends on whether changes to the term structure of interest rates occur consistently across the yield curve (parallel risk) or differentially by period (non-parallel risk).
2. Basis risk describes the impact of relative changes in interest rates for financial instruments that have similar tenors but are priced using different interest rate indices.
3. Option risk arises from option derivative positions or from optional elements embedded in a bank's assets, liabilities, and/or off-balance sheet items, where the bank or its customer can alter the level and timing of their cash flows. Option risk can be further characterized as automatic option risk and behavioral option risk.

While the three sub-types listed above are directly linked to IRRBB, credit spread risk in the banking book (CSRBB) is a related risk that banks need to monitor and assess in their interest rate risk management framework. CSRBB refers to any kind of asset/liability spread risk of credit-risk instruments that is not explained by IRRBB and by the expected credit/jump to default risk.

Principles for banks and supervisors on interest rate risk:

The following principles define supervisory expectations for the management of IRRBB. Principles 1 to 7 are of general application for the management of IRRBB, covering expectations for a bank's IRRBB management process, in particular the need for effective IRRBB identification, measurement, monitoring, and control activities. Principles 8 and 9 set out the expectations for market disclosures and banks' internal assessment of capital adequacy for IRRBB respectively.

Principles 10 to 12 address the supervisory approach to banks' IRRBB management framework and capital adequacy.

1. IRRBB is an important risk for all banks that must be specifically identified, measured, monitored, and controlled. In addition, banks should monitor and assess CSRBB.
2. The governing body of each bank is responsible for oversight of the IRRBB management framework, and the bank's risk appetite for IRRBB. Monitoring and management of IRRBB may be delegated by the governing body to senior management, expert individuals, or an asset and liability management committee

(henceforth, its delegates). Banks must have an adequate IRRBB management framework, involving regular independent reviews and evaluations of the effectiveness of the system.

3. The banks' risk appetite for IRRBB should be articulated in terms of the risk to both economic value and earnings. Banks must implement policy limits that target maintaining IRRBB exposures consistent with their risk appetite.
4. Measurement of IRRBB should be based on outcomes of both economic value and earnings-based measures, arising from a wide and appropriate range of interest rate shock and stress scenarios.
5. In measuring IRRBB, key behavioral and modeling assumptions should be fully understood, conceptually sound, and documented. Such assumptions should be rigorously tested and aligned with the bank's business strategies.
6. Measurement systems and models used for IRRBB should be based on accurate data, and subject to appropriate documentation, testing, and controls to give assurance on the accuracy of calculations. Models used to measure IRRBB should be comprehensive and covered by governance processes for model risk management, including a validation function that is independent of the development process.
7. Measurement outcomes of IRRBB and hedging strategies should be reported to the governing body or its delegates regularly, at relevant levels of aggregation (by consolidation level and currency).
8. Information on the level of IRRBB exposure and practices for measuring and controlling IRRBB must be disclosed to the public regularly.
9. Capital adequacy for IRRBB must be specifically considered as part of the Internal Capital Adequacy Assessment Process (ICAAP) approved by the governing body, in line with the bank's risk appetite on IRRBB.
10. Supervisors should, regularly, collect sufficient information from banks to be able to monitor trends in banks' IRRBB exposures, assess the soundness of banks' IRRBB management, and identify outlier banks that should be subject to review and/or should be expected to hold additional regulatory capital.
11. Supervisors should regularly assess banks' IRRBB and the effectiveness of the approaches that banks use to identify, measure, monitor, and control IRRBB. Supervisory authorities should employ specialist resources to assist with such assessments. Supervisors should cooperate and share information with relevant supervisors in other jurisdictions regarding the supervision of banks' IRRBB exposures.
12. Supervisors must publish their criteria for identifying outlier banks. Banks identified as outliers must be considered as potentially having undue IRRBB. When a review of a bank's IRRBB exposure reveals inadequate management or excessive risk relative to capital, earnings, or general risk profile, supervisors must require mitigation actions and/or additional capital.

The implementation of these principles should be commensurate with the bank's nature, size, and complexity as well as its structure, economic significance, and general risk profile. This requires that supervisors gauge whether their responses were appropriate for banks with low IRRBB profiles. In particular, supervisors will focus on systemic risks that are inherent in large, complex, or internationally active banks.

2.1.2 Source

Banking businesses encounter interest rate risk in several ways, including repricing risk, yield curve risk, basis risk (also known as spread risk), and optionality risk.

Repricing risk: The primary and most discussed form of interest rate risk arises from timing differences in the maturity (for fixed-rate) and repricing (for floating rate) of banks' assets, liabilities, and Off-Balance Sheet

(OBS) positions. Such repricing mismatches may expose a bank's income and economic value to unanticipated fluctuations as interest rates vary.

Yield curve risk: Yield curve risk arises when unanticipated shifts of the yield curve have adverse effects on a banking business's income or economic value. The yield curve may shift due to changing relationships between interest rates for different maturities of the same index or market. These changes will be evident in the slope (steeper or flatter) or shape (bend) of the curve.

Basis risk: A risk arising from imperfect correlation in the changes of interest rates in different financial markets or on different instruments with otherwise similar repricing characteristics. Differences in interest rate changes can give rise to unexpected changes in the cash flows and earnings spread between assets, liabilities, and Off-Balance Sheet (OBS) instruments of similar maturities or repricing frequencies.

Optionality risk: An additional source of interest rate risk arises from a change in the timing or scope of a financial instrument's cash flows due to changing market interest rates. This risk arises from the options embedded in many banks' assets, liabilities, and OBS portfolios. These options provide the holder the right, but not the obligation, to buy, sell or in some manner alter the cash flow of the financial instrument. While banks use exchange-traded and OTC options in both trading and nontrading accounts, instruments with embedded options are generally more important in non-trading activities. Examples of instruments with embedded options include various types of bonds and notes with a call or put provisions, loans that give borrowers the right to prepay balances, and various types of non-maturity deposit instruments which give depositors the right to withdraw funds at any time, often without penalties.

2.1.3 Term Structure of Interest Rates and Yield Curve

There is no difference between term structure and a yield curve; the yield curve is simply another name to describe the term structure of interest rates.

What Is the Term Structure of Interest Rates?

The term structure of interest rates is a graph that plots the yields of similar bonds in the Y-axis with the maturities, or time, in the X-axis.

The reason why the term structure of interest rates and a yield curve is the same is that the graph of the term structure of interest rates plots different yields being offered by bonds of different maturities.

The term structure of interest rates can take one of three yield curve shapes: normal, inverted, or flat.

A normal yield curve means that as the maturity of the bonds increases in time, so do the yields, creating a convex shape. The yield curve represents the changes in interest rates associated with particular security based on the length of time until maturity. Unlike other metrics, the yield curve is not produced by a single entity or government. Instead, it is set by measuring the feel of the market at the time, often referring to investor knowledge to help create the baseline. The direction of the yield curve is considered a solid indicator of the current direction of an economy.

An inverted yield curve means short-term yields are higher than long-term yields, and the curve slopes downward in a concave fashion. This means yields and maturities are negatively inverted. In addition to its impact on investors, an inverted yield curve also has an impact on consumers. For example, homebuyers financing their properties with adjustable-rate mortgages (ARMs) have interest-rate schedules that are periodically updated based on short-term interest rates. When short-term rates are higher than long-term rates, payments on ARMs tend to rise. When this occurs, fixed-rate loans may be more attractive than adjustable-rate loans.

Lines of Credit are affected similarly. In both cases, consumers must dedicate a larger portion of their incomes toward servicing existing debt. This reduces expendable income and hurts the economy as a whole.

A flat yield curve means there is little or no variation between yields and maturities, and all maturities have similar yields. This makes the yield curve parallel to the X-axis. A flattening yield curve may be a result of long-term interest rates falling more than short-term interest rates or short-term rates increasing more than long-term rates. A flat yield curve is typically an indication that investors and traders are worried about the macroeconomic outlook. One reason the yield curve may flatten is market participants may be expecting inflation to decrease or the Bank Regulator of the Country to raise the Regulator funds rate in the near term.

Why Does the Term Structure of Interest Rates Matter?

Generally, the term structure of interest rates is a good measure of future economic growth expectations. If there is a highly positive normal curve, it is a signal investors believe future economic growth to be strong and inflation high. If there is a highly negative inverted curve, it is a signal investors believe future economic growth to be sluggish and inflation low. A flat yield curve means investors are unsure about the future.

2.1.4 Interest Rate Risk and Credit Risk

Interest Rate Risk is the risk where changes in market interest rates affect a bank's financial position. The changes in interest rates impact a bank's earnings (i.e., reported profits) through changes in its Net Interest Income (NII) and also impact Market Value of Equity (MVE) or Net Worth through changes in the economic value of its rate-sensitive assets, liabilities, and off-balance sheet positions. The interest rate risks, when viewed from these two perspectives, are known as 'earnings perspective' and 'economic value perspective', respectively. Generally, the former is measured using the Traditional Gap Analysis (TGA) and the latter is measured by using more sophisticated methods like Duration Gap Analysis (DGA). The present RBI guidelines on IRR require banks to carry out both analyses.

Traditional GAP Analysis

A gap analysis is the process companies use to compare their current performance with their desired, expected performance. This analysis is used to determine whether a company is meeting expectations and using its resources effectively.

A gap analysis is how a company can recognize its current state-by measuring time, money, and labour and comparing it to its target state. By defining and analysing these gaps, the management team can create an action plan to move the organization forward and fill in the performance gaps.

When organizations aren't making the best use of their resources, Capital, and technology, they may not be able to reach their full potential. This is where a gap analysis can help.

A gap analysis, which is also referred to as a needs analysis, is important for any type of organizational performance. It allows companies to determine where they are today and where they want to be in the future. Companies can re-examine their goals through gap analysis to figure out whether they are on the right track to accomplishing them.

Gap analyses were widely used in the 1980s, typically in tandem with duration analyses. A gap analysis is considered harder to use and less widely implemented than duration analysis, but it can still be used to assess exposure to a variety of term structure movements.

Example:

A bank holds ₹ 100 crore liabilities at 9% of one year maturity to fund assets of ₹ 100 crore at 10% with two-year maturity. Over the first year, bank is getting a profit spread of 1% amounting to ₹ 1 crore. However, its profits for second year are not certain. If interest rate remains unchanged, the profits will continue to be the same. However, since the liabilities are for one year and need to be rolled over for second year, bank is exposed to interest rate risk.

If the interest rate on liabilities increase to 11% in second year, bank would be incurring a loss of 1%, i.e., ₹ 1 crore

in the second year. Conversely bank is again exposed to interest rate risk if it holds shorter term assets relative to liabilities, i.e., liabilities maturing in two years against assets maturing in one year. It then faces the uncertainty of interest rate at which it can reinvest funds after the first year for further one year matching the liabilities maturity.

Duration GAP Analysis:

Methodology for Computing Modified Duration Gaps: The step-by-step approach for computing modified duration gap is as follows:

1. Identify variables such as principal amount, maturity date/re-pricing date, coupon rate, yield, frequency, and basis of interest calculation for each item/category of asset/liability.
2. Generate the bucket-wise cash flows for each item/category of asset/liability/off-balance sheet item.
3. Determine the yield curve for arriving at the yields based on current market yields/current replacement cost for each item/category of asset/liability/off-balance sheet item as proposed in the framework above.
4. The mid-point of each time bucket may be taken as a proxy for the maturity of all assets and liabilities in that time bucket.
5. Calculate the Modified Duration of each category of asset/liability/off-balance sheet item using the maturity date, yield, coupon rate, frequency, yield, and basis for interest calculation for each category of asset/liability/off-balance sheet item.
6. Determine the weighted average Modified Duration of all the assets (DA) and similarly for all the liabilities (DL), including off-balance sheet items.
7. The Modified Duration Gap is derived by the equation:

$$DGAP = \text{Modified DA} - W \times \text{Modified DL}$$

Whereas:

$W = \text{RSL/RSA}$ (Rate Sensitive Liabilities/Rate Sensitive Assets).

DA = Weighted average Modified Duration of assets and

DL = Weighted average Modified Duration of liabilities.

Calculation of Modified Duration of Equity: Along with Modified Duration Gap, banks may also compute Modified Duration of Equity to enable easier comparison of IRR amongst banks. The same may be computed as per the framework given below:

(**Note:** Equity in this example refers to capital funds)

- Modified Duration of Equity = $DGAP \times \text{Leverage}$
- Leverage = RSA/Equity (which indicates the extent to which equity has been leveraged to create assets)

Example:

(₹ in Crores)

Economic Value of Equity	Amount
Net worth	1350.00
RSA	18251.00
RSL	18590.00

Modified Duration of Gap	
DA (Weighted Modified Duration of Assets)	1.96
DL (Weighted Modified Duration of Liabilities)	1.25
Weight = RSL/RSA	1.02
DGAP = DA – W × DL	0.69
Leverage Ratio = RSA/(Tier 1 + Tier 2)	13.52
Modified Duration of Equity = DGAP × Leverage Ratio	9.34
For a 200 bp	
Rate shock the drop in equity value is	18.68% (9.34 × 2)

The following approach for the calculation of modified duration may be adopted by banks:

Investments: Compute the actual Modified Duration for each item of the bank's investment portfolio.

Assets/liabilities in foreign currency: The assets and liabilities in a foreign currency will be converted into Indian Rupees using the relevant spot closing rates as published by FEDAI.

Derivative instruments (other than options):

Modified duration for each item of assets and liabilities will be computed using the yields as appropriate.

Banks may use their methodologies for computing the modified duration of their derivatives portfolio. One possible method for computing modified duration for the derivatives portfolio could be as follows:

All derivatives which have a forward component should be considered as a combination of two positions in bonds. Accordingly, banks should compute the actual modified duration for each item of the derivatives portfolio and plot them as assets (receivables) or liabilities (payables) in the appropriate time buckets.

Interest Rate Swaps could be considered as a combination of a short position and a long position. The notional of the fixed and floating leg of an Interest Rate Swap could be shown in the respective maturity bucket based on the maturity date for the fixed leg and the reset date for the floating leg. Suppose, a bank receives a 5-year fixed and pays floating MIBOR, then the fixed leg of the swap could be shown as positive in the '5-7 year' bucket and the floating leg would be shown as a negative in ' < 1-month bucket.

Forward rate agreements could also be considered as a combination of a short position and a long position. For instance, a long position in a September three month FRA (taken on June 1), can be bucketed as a long position, with a maturity of six months, and a short position with a maturity of three months. The amount to be shown in the Statement of interest rate sensitivity is notional to the FRA.

Interest Rate Futures could be treated similarly to a Forward Rate Agreement. Thus, the notional of the interest rate future should be shown in the relevant buckets in the Statement of Interest Rate Sensitivity.

Derivatives – Options:

FC- INR options: The 'delta' times the notional value amount (based on the strike price) could be shown in the respective maturity bucket as an outflow/inflow based on the option. For instance, if a bank has a USD 1 Mio. long call Rupee dollar option (wherein the bank buys the USD against INR) at a strike price of ₹44.00 at the end of 2 months and say the delta of this option is 0.45. To bucket in the Statement of Interest Rate Sensitivity, the bank may take ₹1.98 crore (viz. 1mio × 44 × 0.45) as an outflow in the 1–3-month time bucket. To compute the modified duration, the bank may use the MIFOR curve for the discounting rate.

Cross currency options: Adopt the same methodology as for FC – INR options except that the relevant conversion rate (using the FEDAI closing rate) and the appropriate yield curve should be used.

Each bank will have to decide either to have an individual account-wise approach to the calculation of Modified Duration or aggregate various items of assets and liabilities (in groups) in the respective time buckets as indicated in paragraph 5 above and thereafter work out the Modified Duration taking mid-points of the time buckets as the maturity date, and apply the relevant coupon and yields.

The focus of the TGA is to measure the level of a bank's exposure to interest rate risk in terms of sensitivity of its NII to interest rate movements over one year. It involves bucketing of all rate sensitive assets (RSA) and rate-sensitive liabilities (RSL) and off-balance sheet items as per residual maturity / re-pricing date in various time bands and computing Earnings at Risk (EaR) i.e., loss of income under different interest rate scenarios over a time horizon of one year.

The focus of the DGA is to measure the level of a bank's exposure to interest rate risk in terms of sensitivity of MVE to interest rate movements. The DGA involves bucketing of all RSA and RSL as per residual maturity / re-pricing dates in various time bands and computing the Modified Duration Gap (MDG). The RSA and RSL include the rate-sensitive off-balance sheet asset and liabilities. MDG can be used to evaluate the impact on the MVE of the bank under different interest rate scenarios.”

Banks are required to compute capital requirements for interest rate risk under Pillar 2 of Basel 3 Capital Regulations, banks are required to identify the risks associated with the changing interest rates on their on-balance sheet and off-balance sheet exposures in the banking book from both, short-term and long-term perspectives. A level of interest rate risk, which generates a drop in MVE (Market Value of Equity) of more than 20% with an interest rate shock of 200 basis points, is treated as excessive and such banks may be asked by RBI to hold additional capital against IRRBB. From a simple man's point of view, the banks are expected to save their capital and earnings from adverse movements of interest rates. When interest rates change, say, out of changes in deposits, advances, or early withdrawal of deposits or early payment of advances, the present value and timing of cash flows change.

Or simply put, excessive IRRBB can affect the capital base and or future earnings, if timely action is not taken. It arises because interest rates can vary significantly over time, while the banking, as a normal business activity, produces exposures to both maturity mismatch (long term assets funded by short term liabilities) and rate mismatch (fixed-rate loans, like car loans, being funded by short term deposits of various duration). Further changes in deposit rates or changes in banks' lending rates may also trigger many unforeseen developments.

Governance: The banks are expected to have a defined risk appetite for IRRBB duly approved by their Board with checks and balances. It specifies the aggregate limit of the amount acceptable to the bank as a whole and the individual entities as well. The specific changes in scenarios are linked to the changes in interest even under shock and stress scenarios taking into account historical interest rate volatility and the time required by the bank to mitigate those risk exposures.

The following additional information may help:

- The bank's board to specifically approve the level of IRRBB and to get periodical reports in this regard.
- The banks to have clearly defined procedures to approve major hedging or risk-taking initiatives in advance of implementation.
- The banks regularly monitor the evolution of hedging strategies to control mark-to-market risks in instruments that will be evaluated at market value.

Measurement: Banks are required to compute IRRBB according to hypothetical and historical interest rate scenarios based on their risk profile. RBI has given 6 prescribed risk rate shock scenarios for the guidance of the banks. It has also given a standardized methodology to compute IRRBB from the perspective of EVE.

Assumptions required for computation of IRRBB: Product-wise suggestions are as under:

- Fixed-rate loans subject to prepayment risk—loan size, loan to value ratio, borrower characteristics, and other location, maturity, or historical factors are to be studied.
- Fixed-rate loan commitments—borrower size, geographical location, term of repayment is to be taken into consideration.
- Term deposits subject to redemption risk early—factors like deposit size, depositor characteristics, location, or the competitive market characteristics may be studied.
- Banks exposed to various currencies and countries are likely to study IRRBB in each currency and country of exposure.

Overall, the banks are expected to have a sound system of evaluation, analysis, and qualified personnel motivated at various levels to study IRRBB at various periods of its functioning, have an effective follow-up procedure, and report to the Board as per approved systems. Most of the Indian banks may have to acquire the intention to adopt to these sophisticated international level situations given increased competition and the arrival of other players who compete effectively with banks in their routine domain of operation.

Reporting: Expectedly, the banks are to report periodically to their Board, their reports on periodic model reviews and audits based on present scenarios as compared to the past as well as their projections as evaluated to the present. Never, banks in the past bothered to calculate the risks associated with routine cancellation of deposits, prepayment of demand loans, term loans, or non-availing of sanctioned loan limits. These situations were presumed as routine banking operations without any eventful results. Now, RBI would also invite regular reports, evaluate them during audits and ensure reporting the situations to the common man in the Banks' balance sheets with adequate details.

Capital for IRRBB under Pillar 2 Some of the instructions given by RBI from the above guidelines have been given below almost similarly for better understanding:

- Banks through their Board ensure adequate maintenance of capital to cover IRRBB and its related risks.
- Banks to develop their methodologies for capital allocation, based on risk appetite.
- Capital adequacy for IRRBB to be considered about risks that are embedded in banks' assets, liabilities, and off-balance sheet items. For expectations of less future earnings, the banks are expected to consider capital buffers.
- The effectiveness and expected cost of hedging open positions that are expected to take advantage of internal expectations of future interest rates.

The following interest rate shock scenarios are as under:

- (i) parallel shock up;
- (ii) parallel shock down;
- (iii) steeper shock (short rates down and long rates up);
- (iv) flattener shock (short rates up and long rates down);
- (v) short rates shock up; and
- (vi) short rates shock down.

Required mathematical models for study and application are as per details given below:

- (i) Indicative methods for calculating ΔEVE .
- (ii) Cash flow bucketing.

The Indian banking Boards were not exposed to the modern scenarios since the banks made good money and the risks involved were not huge. Though the guidelines given by RBI are yet to be finalized based on receipt of views of all scheduled commercial banks, the author dares to expose an average reader to the perils of modern banking as visualized by RBI, particularly given Pillar 2 of Basel 3 Capital regulations and valuation of hedging strategies that rely on instruments such as derivatives and to control mark-to-market risks in instruments that are accounted for at market value in terms of Ind AS accounting standards which have been adopted by Indian banks due to recent RBI guidelines.

Credit Risk:

Credit risk measurement: Credit risk arises when a bank borrower or counterparty fails to meet his obligations according to a specified schedule in terms of a predetermined agreement either due to genuine problems or wilful default. Banks are using two broad methodologies for computing their capital requirements for credit risk as per Basel II guidelines. The first method is the standardized approach and the second method is Internal Rating Based approach.

Standardized approach (SA): The term standardized approach (or standardized approach) refers to a set of credit risk measurement techniques proposed under Basel II capital adequacy rules for banking institutions. Under the SA, the banks use a risk-weighting schedule for measuring the credit risk of their assets by assigning risk weights based on the rating assigned by the external credit rating agencies.

Internal rating-based approach (IRB) – Under this approach, banks are allowed to use their own estimated internal risk parameters calculating counterparties and exposures for regulatory capital. Under IRB Approach, the accord has made available two broad approaches viz. foundation approach and advanced approach.

Under the foundation approach or Foundation IRB (F-IRB), as a general rule, banks provide their estimates of PD (Probability of default) and rely on supervisory estimates for other risk components. However, the foundation approach is not available for retail exposures. For retail exposures banks are required to use their estimates of the IRB parameters (Probability of default (PD), Loss Given Default (LGD), Credit conversion factors (CCF) subject to the approval of the banking regulator. Then total required capital is calculated as a fixed percentage of the estimated RWA.

Under the advanced approach or Advanced IRB (A-IRB), banks provide for more of their estimates of PD, LGD, and EAD (exposure at default) and their calculation of M, subject to meeting minimum standards approved by the local regulator. Then total required capital is calculated as a fixed percentage of the estimated RWA. The IRB approach allows a finer differentiation of risk for various exposures and hence delivers capital requirements that are better aligned to the degree of risks.

2.1.5 Measuring Interest Rate Risk

Depending on the complexity and range of activities of the individual banking business, banking businesses should have interest rate risk measurement systems that assess the effects of interest rate changes on both earnings and economic value.

At the very least, these measurement systems should:

- (a) Assess all material interest rate risk associated with a banking corporation's assets, liabilities, and off-balance sheet positions;
- (b) Provide measurements of the banking business's current exposure levels to interest rate risk;
- (c) Make it possible to find any deviant exposure;
- (d) Utilize generally accepted financial concepts and risk measurement techniques; and
- (e) Have well-documented assumptions and parameters.

Measurement systems should incorporate all interest rate exposures arising from the full scope of a banking corporation's activities, including trading and non-trading sources. This does not preclude different measurement systems and risk management approaches being used for different activities; however, management should have an integrated view of interest rate risk across products and business lines. The interest rate risk in the banking book should be measured separately, in part to ensure compliance with the Proper Conduct of Banking Business i.e., "Capital Adequacy Assessment".

A banking business's interest rate risk measurement system should address all material sources of interest rate risk including repricing, yield curve, basis, and optionality risk exposures.

Measurement systems should evaluate concentrations of the banking corporation's largest holdings with particular rigor and should also provide a rigorous treatment of those instruments which might significantly affect a banking corporation's aggregate position, even if they do not represent a major concentration, such as instruments with significant embedded or explicit option characteristics.

Interest rate risk effects:

Exposure to interest rate risk may affect both earnings and economic value and is represented by two separate but complementary measurement techniques. Several techniques are available for measuring the risk and their complexity ranges from simple calculations to static simulations using current holdings to highly sophisticated dynamic modeling techniques that reflect potential future business activities.

- **Earnings approach:** An analysis of the effect of changes in interest rates on earnings which are measured according to the Reporting to the Public Directives. In the past, the analysis focused on net interest income, but nowadays an examination of whether income from other sources should be included is to be conducted, depending on the existence of an identifiable connection with changing market interest rates. For example, when a banking business provides operating services for a fee that is based on the volume of assets that it operates and which in turn can be associated with changes in the market interest rates.
- **Economic value Approach:** An analysis of the effect of changes in interest rates on the economic value of a banking business's assets, liabilities, and Off-Balance Sheet (OBS) positions. The banking corporation's economic value is the present value of its net future cash flows, defined as future cash flows from assets net of future cash flows from liabilities, plus net future cash flows from OBS positions. Given that the economic value approach is mindful of the potential effect of changes in interest rates on the present value of all future cash flows, it provides a more comprehensive view of the possible long-term effects of changing interest rates than the earnings approach. This broad view is important as short-term changes in the earnings-the focus of the earnings approach-may not provide an accurate indication of the effect of interest rate changes on the banking business's overall positions.

Banking businesses should use both approaches to estimate their risk exposure.

- **Embedded losses:** The earnings approach and the economic value approach both focus on the question of how future changes in interest rates may affect banking businesses' financial performance. When banking business assesses the level of interest rate risk, they are willing and able to assume, they must also consider the effects of historical interest rates on future performance. Specifically, instruments that are not marked to market may already contain embedded gains or losses due to past rate fluctuations. These gains or losses may be reflected over time in the bank's earnings. For example, a long-term, fixed-rate loan entered into when interest rates were low and refunded more recently with liabilities bearing a higher rate of interest will, over its remaining life, represent a drain on the banking corporation's resources.

Interest Rate Risk Measurement Techniques:

Maturity/repricing schedule-interest-sensitive assets, liabilities, and Off-Balance Sheet (OBS) positions can be distributed into “time bands” according to their maturity (if fixed-rate) or time remaining to their next repricing (if floating-rate). These schedules can be used to generate simple indicators of the interest rate risk sensitivity of both earnings and economic value to changing interest rates, typically known as gap analysis. The size of the gap for a given time band—that is, assets minus liabilities plus OBS exposures that reprice or mature within that time band, indicates the banking business’s repricing risk exposure. A maturity/repricing schedule can also be used to evaluate the effects of changing interest rates on a banking business’s economic value by applying sensitivity weights considerations to each time band.

Example:

Consider that a bank has invested the proceeds of a 91 days 8% deposit in 91days T-Bill earning 10% and maturing on the same day as the deposit.

In this case, the bank will have no asset - liability mismatch or gap, and hence there would be no interest rate risk. If the interest rate rises by 100 basis points during the 91-days term of the deposit, the deposit will be renewed at 9% and T-Bill will also mature and the proceeds can be reinvested at the new yield of 11%.

Thus, the 200 basis points NII will be preserved.

If the proceeds of the 91 days deposit are reinvested in a floating rate loan (repriced at monthly intervals) with an initial rate of 10%, the interest rate earned on the loan will change twice during 91 days, while the deposit rate remains unchanged. Since the asset is repriced much more rapidly than the liability during this period, the bank is asset sensitive. The asset sensitive bank can produce a large NII if the interest rate rises in the market because interest rate on floating rate loan moves higher during the 91 days period, while interest being paid on the deposit remains at 8%. Conversely asset sensitive gap position would cause compression in the NII if the interest rates decline.

If the bank uses a 91 days 8% term deposit to fund a 5-year fixed rate mortgage loan at 10%, the loan will continue to earn 10%, while the deposit gets repriced at every 91 days interval. The bank is now liability sensitive because the interest paid on its deposit is reset more rapidly than the rate being charged on the loan. A rise or fall in interest rate in a liability sensitive situation has the opposite effect on the NII than on an asset sensitive bank. Any increase in interest rate will cause an erosion in the liability sensitive bank’s NII.

Simulation techniques-detailed assesses the potential effects of changes in interest rates on earnings and economic value by simulating the future path of interest rates and their impact on cash flows. In static simulations, the cash flows arising solely from the banking corporation’s current on- and off-balance sheet positions are assessed. In a dynamic simulation approach, the simulation builds in more detailed assumptions about the future course of interest rates and expected changes in a bank’s activity over that time.

Banking corporations may use a variety of measurement techniques to evaluate their interest rate risk profile, provided that the techniques incorporate simulations.

Where the measurement techniques used by a banking corporation to assess the impact of interest rate risk on economic value produce results that differ significantly. “Banking business’s exposure to changes in interest rates”, the banking business should analyze the principal causes of the differences and document the analysis and its conclusions.

Degree of detail and accuracy: Banking businesses should ensure that the degree of detail about the nature of their interest-sensitive positions in their interest rate risk measurement systems is commensurate with the complexity and risk inherent in those positions. The banking corporation must assess the significance of the potential loss of

precision in determining the extent of aggregation and simplification to be built into the measurement approach.

Integrity and timeliness of data:

- (a) A banking business should ensure that all material positions and cash flows, whether stemming from on or off-balance sheet positions, are incorporated into the measurement system on a timely basis.
- (b) Where applicable, these data should include information on the coupon rates or cash flows of associated instruments and contracts.
- (c) Any manual adjustments to underlying data should be documented, and the nature and reasons for the adjustments should be clearly understood. In particular, any adjustments to expected cash flows for expected prepayments or early redemptions should be well reasoned and such adjustments should be available for review.

Assumptions:

- (a) Banking businesses should employ a change in interest rates that is large enough to encompass the risks attendant to their holdings. Banks should use multiple scenarios, including the potential effects of changes in the relationships among interest rates (i.e., yield curve risk and basis risk) as well as changes in the general level of interest rates. For determining probable changes in interest rates, simulation techniques could be used. Statistical analysis can also play an important role in evaluating correlation assumptions concerning the basis or yield curve risk.
- (b) In assessing the results of interest rate measurement systems, it is important that the assumptions underlying the system are clearly understood by risk managers and banking business management, in particular when sophisticated simulations are used.
- (c) Key assumptions should be recognized by senior management and risk managers and should be re-evaluated at least once a year. These assumptions should also be documented to enable their meaning to be understood.
- (d) Assumptions used in assessing the interest rate sensitivity of complex instruments and instruments with uncertain maturities should be subject to particularly rigorous documentation and review.
- (e) Reviews of key assumptions should incorporate an assessment of their effect on the measurement of the banking business exposure. Such assessment will be conducted by employing a sensitivity analysis that examines the degree of exposure under a different set of assumptions. Management will use this analysis to determine which are the most important assumptions and require frequent monitoring or the use of more rigorous techniques to ensure their reasonability.
- (f) When measuring interest rate risk exposure, two further aspects merit close attention: The treatment of those positions where behavioral maturity differs from contractual maturity and the treatment of positions denominated in different currencies.

Positions such as savings and sight deposits may have contractual maturities or may be open-ended, but in either case, depositors generally have the option to make withdrawals at any time. In addition, banks often choose not to move rates paid on these deposits in line with changes in market rates. These factors complicate the measurement of interest rate risk exposure since not only the value of the positions but also the timing of their cash flows can change when interest rates vary. Concerning banking business assets, prepayment features of mortgages and mortgage-related instruments also introduce uncertainty about the timing of cash flows on these positions.

Banking businesses with positions denominated in different currencies can expose themselves to interest rate risk in each of these currencies. Since yield curves vary from currency to currency, banking corporations generally

need to assess exposures in each. Banks with the necessary skills and sophistication, and with material multi-currency exposures, may choose to include in their risk measurement process methods to aggregate their exposures in different currencies using assumptions about the correlation between interest rates in different currencies. A banking corporation that uses correlation assumptions to aggregate its risk exposures should, at least once a year, review the stability and validity of those assumptions. The banking corporation also should evaluate what its potential risk exposure would be if such correlations break down. Likewise, the banking corporation should also evaluate the risk in respect of indexed and unindexed shekel positions.

Limits:

The goal of interest rate risk limits and risk-taking guidelines is to maintain a banking business interest rate risk exposure within self-imposed parameters over a range of possible changes in interest rates.

- (a) Limits should be consistent with the size and complexity of the banking business's activity, capital adequacy, and its ability to measure and manage its risks.
- (b) Limit systems should address interest rate risk in its entirety, but make a distinction between interest rate risk in the banking book and interest rate risk in the trading book. The level of detail of risk limits should reflect the nature of the banking corporation's holdings and its complexity, including the various sources of interest rate risk to which the banking corporation is exposed. Limits should also be identified, if relevant, for individual business units, portfolios, instrument types, or specific instruments.
- (c) A banking corporation's limits should be consistent with its overall approach to measuring interest rate risk and should address the potential impact of changes in market interest rates on reported earnings and the bank's economic value of equity.
 - ⦿ Limits on the variability of net income and net interest income should specify acceptable levels of earnings volatility under specified interest rate scenarios.
 - ⦿ Limits on the impact of changing rates on a banking corporation's economic value of equity should be appropriate for the size and complexity of its underlying positions. For a banking business engaged in traditional banking activities and with few holdings of long-term instruments, options, instruments with embedded options, or other instruments whose value may be substantially altered given changes in market rates, relatively simple limits on the extent of such holdings may suffice. For a more complex banking business, however, more detailed limit systems on acceptable changes in the estimated economic value of equity may be needed.
- (d) Interest rate risk limits may refer to specific scenarios of movements in market interest rates such as an increase or decrease of a particular magnitude. The rate movements used in developing these limits should represent meaningful stress situations taking into account historic rate volatility and the time required for management to address exposures. Limits may also be based on measures derived from the underlying statistical distribution of interest rates, such as earnings at risk (EaR) or economic value-at-risk (VaR) techniques. Moreover, specified scenarios should take account of the full range of possible sources of interest rate risk to the banking business including mismatch, yield curve, basis, and optionality risks. Simple scenarios using parallel shifts in interest rates may be insufficient to identify such risks.
- (e) An appropriate limit system should enable management to control interest rate risk exposures, initiate discussion about opportunities and risks, and monitor actual risk-taking against predetermined risk appetite.
- (f) There should be a clear policy as to how the board of directors and senior management will be informed of limit exceptions and what action should be taken by management in such cases. Particularly important is whether limits are absolute in the sense that they should never be exceeded or whether, under specific

circumstances which should be clearly described, breaches of limits can be tolerated for a short period. In that context, the relative conservatism of the chosen limits may be an important factor.

- (g) Aggregate limits on interest rate risk should be reviewed at least once a year.

2.1.6 Interest Rate Risk Measurement and Basel Norms

Banks are required to compute capital requirements for interest rate risk in trading book positions, and the resultant risk-weighted assets are added to banks' total risk-weighted assets. As a part of Pillar 2 of Basel III Capital regulations, banks are required to identify the risks associated with the changing interest rates on their on-balance sheet and off-balance sheet exposures in the banking book from both, short-term and long-term perspectives. It is also mentioned that banks can decide, with the approval of the Board, on the appropriate level of interest rate risk in the banking book, which they would like to carry keeping in view their capital level, interest rate management skills, and the ability to re-balance the banking book portfolios quickly in case of adverse movement in the interest rates.

A level of interest rate risk, which generates a drop in the MVE of more than 20 percent with an interest rate shock of 200 basis points, is treated as excessive, and such banks may be required by the RBI to hold additional capital against IRRBB as determined during the Supervisory Review and Evaluation Process (SREP). Banks, which have IRRBB exposure equivalent to less than 20 percent drop in the MVE may be required to hold additional capital if the level of interest rate risk is considered, by the RBI, to be high about their capital level or the quality of interest rate risk management framework obtaining in the bank. While banks may on their own decide to hold additional capital towards IRRBB keeping in view the potential drop in their MVE, the IRR management skills, and the ability to re-balance the portfolios quickly in case of adverse movement in the interest rates, the amount of exact capital add-on, if considered necessary, may have to be decided by the RBI as part of the SREP, in consultation with the bank concerned.

Basel Committee on Banking Supervision (BCBS) in April 2016, finalized its standards on Interest Rate Risk in Banking Book (IRRBB), with a target of implementation by 2018. This standard, inter alia, requires banks to disclose the impact of interest rate shocks on their change in the economic value of equity (ΔEVE) and net interest income (ΔNII), computed based on a set of prescribed interest rate shock scenarios. As mentioned earlier, the present guidelines require banks in India to compute ΔEVE and ΔNII for the entire balance sheet and not just for the banking book positions and report to RBI. However, to promote global consistency, transparency, and comparability of IRRBB with that of global banks, it is considered appropriate to require banks to compute IRRBB separately and disclose it based on BCBS prescribed standards. While there is an explicit capital requirement for IRR for positions in the trading book under pillar 1, there is no capital requirement for Interest Rate Risk in Banking Book (IRRBB) under Pillar 1. IRRBB is covered under Pillar 2. As IRRBB is a material source of risk to the banks in the long run, it is considered desirable to enhance the requirements applicable to IRRBB.

IRRBB is an important risk that arises from banking activities and is encountered by all banks. It arises because interest rates can vary significantly over time, while the business of banking typically involves intermediation activity that produces exposures to both maturity mismatch (e.g., long-maturity assets funded by short-maturity liabilities) and rate mismatch (e.g., fixed-rate loans funded by variable rate deposits). In addition, there are optionality embedded in many of the common banking products (e.g., non-maturity deposits, term deposits, fixed-rate loans) that are triggered by changes in interest rates.

It has been considered appropriate to enhance guidelines on IRRBB. The enhanced guidelines on IRRBB governance and measurement are provided below. Banks are required to implement these guidelines from April 1, 2019. Banks would continue to follow existing guidelines on IRR which applies to the entire balance sheet.

2.1.7 Managing Interest Rate Risk

The board of directors in a banking business should approve strategies and policies concerning interest rate risk management and ensure that senior management takes the steps necessary to monitor and control these risks consistent with the approved strategies and policies. The board of directors should be informed regularly of the interest rate exposure of the banking business to assess the monitoring and controlling of such risk against the board's guidance on risk appetite.

Senior management must ensure that the structure of the banking business's business and level of interest rate risk it assumes are effectively managed, that appropriate policies and procedures are established to control and limit these risks, and that resources are available for evaluating and controlling interest rate risk.

The banking business should clearly define the individuals and/or committees responsible for managing interest rate risk and should ensure that there is adequate separation of duties in key elements of the risk management process to avoid potential conflicts of interest. The banking business should have control functions in their business units and an independent interest rate risk management function, with clearly defined duties that are consistent with the requirements of Proper Conduct of Banking Business.

Banking businesses' interest rate risk policies and procedures should be clearly defined and consistent with the nature and complexity of their activities. These policies should be applied on a consolidated basis and, as appropriate, at the level of individual overseas branches and subsidiaries, especially when recognizing legal distinctions and possible obstacles to cash movements among entities of the banking group.

Banking businesses should identify the risks inherent in new products and activities and ensure these are subject to adequate procedures and controls before being introduced or undertaken. Major hedging or risk management initiatives should be approved in advance by the board of directors.

Banking businesses should have interest rate risk management systems that capture all material sources of interest rate risk and that assess the effect of interest rate changes in ways that are consistent with the scope of their activities. The assumptions underlying the system should be clearly understood by risk managers and bank management.

Banking businesses must establish and enforce limits on activity and implement other practices to maintain exposures within levels consistent with their internal policies.

Banking business should measure their vulnerability to loss under stressful market conditions including the breakdown of key assumptions and consider those results when reviewing and updating their policies and limits for interest rate risk.

Banking businesses must have adequate information systems for measuring, monitoring, controlling, and reporting interest rate exposures in general and interest rate exposures separately in the banking book and the trading book. Reports must be provided on a timely basis to the banking business's board of directors, senior management, and where appropriate, to individual business line managers.

Banking businesses must have an adequate system of internal controls over their interest rate risk management process. A fundamental component of the internal control systems involves regular independent reviews and evaluations of the effectiveness of the system and, where necessary, ensuring that appropriate revisions or enhancements to internal controls are made. The results of such reviews should be available to the Supervisor of Banks upon request.

To Sum Up:

The deregulation of the financial system in India has given a lot of operational freedom to the financial institutions and the pricing of various assets and liabilities has been left to their commercial judgment. Thus, interest rate risk, a term unknown to the banking industry in India, has suddenly become relevant after our country moved from a controlled regime to the liberalized environment

Types of interest rate risk:

- Gap or Mismatch Risk.
- Basis Risk.
- Net Interest Position Risk.
- Embedded Options Risk.
- Yield Curve Risk.
- Price Risk.
- Reinvestment Risk.

Interest rate risk measurement techniques include:

- Repricing schedules.
- Gap analysis.
- Duration.
- Simulation approaches.

Strategies generally employed for controlling Interest Rate Risk:

Reducing Asset Sensitivity.

- Extend investment portfolio maturities.
- Increase floating rate deposits.
- Increase fixed-rate lending.
- Sell floating-rate loans.
- Increase short-term borrowings.
- Increase long-term lending.

Reducing Liability Sensitivity.

- Reducing investment portfolio maturities.
- Increase floating rate lending.
- Increase long-term deposits.
- Increase short-term lending.

The other options available to the banks for managing interest rate risks are:

- Match long-term assets preferably with non-interest-bearing liabilities.
- Match re-priceable assets with similar re-priceable liabilities.
- Use Forward Rate Agreements, Swaps, Options, and Financial Futures to construct synthetic securities

and thus hedge against any exposure to interest rate risk.

- Contain volumes of NPA which accentuate maturity mismatch.

An effective system of internal control for interest rate risk includes:

- A strong control environment.
- An adequate process for identifying and evaluating risk.
- The establishment of control activities such as policies, procedures, and methodologies.
- Adequate information systems.
- Continual review of adherence to established policies and procedures.

Sound interest rate risk management involves the application of four basic elements in the management of assets, liabilities, and OBS instruments:

- Appropriate board and senior management oversight.
- Adequate risk management policies and procedures.
- Appropriate risk measurement, monitoring, and control functions.
- Comprehensive internal controls and independent audits.

IRRBB is an important risk that arises from banking activities and is encountered by all banks. It arises because interest rates can vary significantly over time, while the business of banking typically involves intermediation activity that produces exposures to both maturity mismatch (e.g., long-maturity assets funded by short-maturity liabilities) and rate mismatch (e.g., fixed-rate loans funded by variable rate deposits). In addition, there are optionality embedded in many of the common banking products (e.g., non-maturity deposits, term deposits, fixed-rate loans) that are triggered by changes in interest rates.

Market Risk Management

2.2

Management of market risk should be the major concern of top management of banks. The Boards should articulate market risk management policies, procedures, prudential risk limits, review mechanisms, and reporting and auditing systems. The policies should address the bank's exposure on a consolidated basis and clearly articulate the risk measurement systems that capture all material sources of market risk and assess the effects on the bank. The operating prudential limits and the accountability of the line management should also be clearly defined. The Asset-Liability Management Committee (ALCO) should function as the top operational unit for managing the balance sheet within the performance/risk parameters laid down by the Board. The banks should also set up an independent Middle Office to track the magnitude of market risk on a real-time basis. The Middle Office should comprise experts in market risk management, economists, statisticians, and general bankers and may be functionally placed directly under the ALCO. The Middle Office should also be separated from Treasury Department and should not be involved in the day-to-day management of the Treasury. The Middle Office should appraise the top management / ALCO / Treasury about adherence to prudential / risk parameters and also aggregate the total market risk exposures assumed by the bank at any point in time.

Market Risk

Market risk is the possibility that an individual or other entity will experience losses due to factors that affect the overall performance of investments in the financial markets.

Market risk and specific risk (unsystematic) make up the two major categories of investment risk. Market risk, also called "systematic risk," cannot be eliminated through diversification, though it can be hedged in other ways. Sources of market risk include recessions, political turmoil, changes in interest rates, natural disasters, and terrorist attacks. Systematic, or market risk, tends to influence the entire market at the same time.

This can be contrasted with unsystematic risk, which is unique to a specific company or industry. Also known as "non-systematic risk," "specific risk," "diversifiable risk" or "residual risk," in the context of an investment portfolio, unsystematic risk can be reduced through diversification.

Market risk exists because of price changes. The standard deviation of changes in the prices of stocks, currencies, or commodities is referred to as price volatility. Volatility is rated in annualized terms and may be expressed as an absolute number, such as \$10, or a percentage of the initial value, such as 10%.

To measure market risk, investors and analysts use the Value-At-Risk (VaR) method. VaR modeling is a statistical risk management method that quantifies a stock or portfolio's potential loss as well as the probability of that potential loss occurring. While well-known and widely utilized, the VaR method requires certain assumptions that limit its precision. For example, it assumes that the makeup and content of the portfolio being measured are unchanged over a specified period. Though this may be acceptable for short-term horizons, it may provide less accurate measurements for long-term investments.

Beta is another relevant risk metric, as it measures the volatility or market risk of a security or portfolio in comparison to the market as a whole. It is used in the capital asset pricing model (CAPM) to calculate the expected return of an asset.

The most common types of market risk include interest rate risk, equity risk, commodity risk, and currency risk. Interest rate risk covers the volatility that may accompany interest rate fluctuations and is most relevant to fixed-income investments. Equity risk is the risk involved in the changing prices of stock investments, and commodity risk covers the changing prices of commodities such as crude oil and corn. Currency risk, or exchange-rate risk, arises from the change in the price of one currency in relation to another. This may affect investors holding assets in another country.

A widely used measure of market risk is the value-at-risk (VaR) method. VaR modeling is a statistical risk management method that quantifies a stock or portfolio's potential loss as well as the probability of that potential loss occurring. While well-known, the VaR method requires certain assumptions that limit its precision. Beta is another relevant risk metric, as it measures the volatility or market risk of a security or portfolio in comparison to the market as a whole. It is used in the capital asset pricing model (CAPM) to calculate the expected return of an asset.

Market Risk Management

Market Risk Management provides a comprehensive and dynamic framework for measuring, monitoring, and managing liquidity, interest rate, foreign exchange, and equity and commodity price risks of a bank that needs to be closely integrated with the bank's business strategy.

Market Risk may be defined as the possibility of loss to a bank caused by changes in the market variables. The BIS (Bank for International Settlement) defines market risk as “the risk that the value of on-or off-balance-sheet positions will be adversely affected by movements in equity and interest rate markets, currency exchange rates, and commodity prices”. Thus, Market Risk is the risk to the bank's earnings and capital due to changes in the market level of interest rates or prices of securities, foreign exchange, and equities, as well as the volatilities of those prices.

Market Risk Management of a bank thus involves the management of interest rate risk, foreign exchange risk, commodity price risk, and equity price risk. Besides, it is equally concerned about the bank's ability to meet its obligations as and when they fall due. In other words, it should be ensured that the bank is not exposed to Liquidity Risk.

2.2.1 Market Risk and its Types

Market risk is the risk associated with losses due to unfavourable price movements that affect the market as a whole. These markets range from commodities to cryptocurrencies, any market carries risk. Because market risk affects the entire market, and not specific assets, it can't be avoided through portfolio diversification.

Different Types of Market Risk:

1. Interest Rate Risk:

Interest rate risk arises from unanticipated fluctuations in the interest rates due to monetary policy measures undertaken by the Central Bank. The yields offered on securities across all markets must get equalized in the long run by adjustment of market demand and supply of the instrument. Hence, an increase in the rates would cause a fall in the security price. It is primarily associated with fixed-income securities.

For Example: Consider a situation where a sovereign bond offers a fixed coupon payment of 6% p.a. on the principal value. Now, if the market interest rate rises to 8%, the demand for the 6% bond will decline after a

fall in the prices, causing the Yield (Fixed-Coupon Payment / Market Price of Bond) to rise until it is equal to 8%. Similarly, a decline in the market interest rate will lead to an unanticipated gain in the security's price.

2. **Commodity Risk:**

Certain commodities, such as oil or food grain, are necessities for any economy and complement the production process of many goods due to their utilization as indirect inputs. Any volatility in the prices of the commodities trickles down to affect the performance of the entire market, often causing a supply-side crisis.

Such shocks result in a decline in not only stock prices and performance-based dividends, but also reduce a company's ability to honour the value of the principal itself.

3. **Currency Risk:**

Currency risk is also known as exchange rate risk. It refers to the possibility of a decline in the value of the return accruing to an investor owing to the depreciation of the value of the domestic currency. The risk is usually taken into consideration when an international investment is being made.

To mitigate the risk of losing out on foreign investment, many emerging market economies maintain high foreign exchange reserves to ensure that any possible depreciation can be negated by selling the reserves.

4. **Country Risk:**

Many macro variables that are outside the control of a financial market can impact the level of return due to an investment. They include the degree of political stability, level of fiscal deficit, proneness to natural disasters, regulatory environment, ease of doing business, etc. The degree of risk associated with such factors must be taken into consideration while making an international investment decision.

2.2.2 Calculating Market Risk Exposures

There are two main methods used to measure market risk: value-at-risk (VaR) and Beta:

- Value-at-risk is a statistical method, applied over a specific time frame, that can measure the extent of the risk (potential loss), as well as the likelihood that the loss will occur (occurrence ratio).
- Beta measures the volatility of the stock, based on its previous performance, compared to the market as a whole. In other words, it determines if stocks move in the same direction as the market.

However, there is no agreed-upon method for measuring market risk with either of these methods some can be very simple, while others are quite complicated.

VaR is defined as an estimate of potential loss in a position or asset/liability or portfolio of assets/liabilities over a given holding period at a given level of certainty.

VaR measures the risk. VaR is an estimate of the potential loss (and not gain) likely to be suffered and not the actual loss. The actual loss may be different from the estimate.

VaR measures the probability of loss for a given time period over which the position is held. The given time period could be one day or a few days or a few weeks or a year.

VaR will change if the holding period of the position changes. The holding period for an instrument/position will depend on liquidity of the instrument/ market with the help of VaR, we can say with varying degrees of certainty that the potential loss will not exceed a certain amount. This means that VaR will change with different levels of certainty.

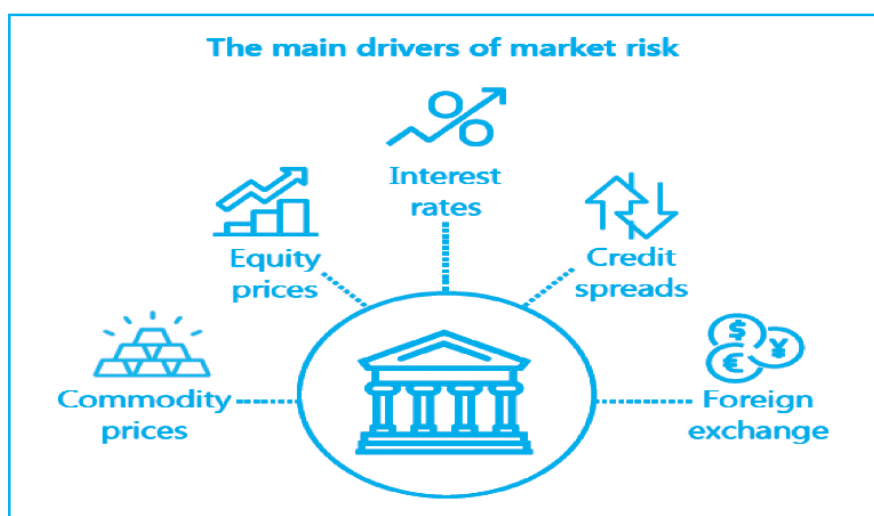
For example, a bank having 1-day VaR of ₹ 10 Crores with 99% confidence interval means that there is only 1 chance in 100, that daily loss will be more than ₹ 10 Crores under normal trading conditions. The Bank for

International Settlements (BIS) has accepted VaR as a measurement of market risks and provision of capital adequacy for market risks, subject to approval by banks' supervisory authorities.

2.2.3 Market Risk and Basel Norms, Value-at-Risk (VaR)

Many banks have portfolios of traded instruments for short-term profits. These portfolios referred to as trading books are exposed to market risk, or the risk of losses resulting from changes in the prices of instruments such as bonds, shares, and currencies. Banks are required to maintain a minimum amount of capital to account for this risk.

The significant trading book losses that bank, incurred during the 2008 global financial crisis highlighted the need for the Basel Committee to improve the global market risk framework. As a stop-gap response, in July 2009 the Committee introduced the Basel 2.5 framework to help improve the framework's risk coverage in certain areas and increase the overall level of capital requirements, with a particular focus on trading instruments exposed to credit risk (including securitizations).



From 2012, the Committee initiated a fundamental review of the trading book. This comprehensive review sought to address the inadequacies in the design and calibration of the market risk framework's internal models and standardized approaches.

The result of this review the 2016 revised framework, originally scheduled for implementation in 2019 set out stricter criteria for assigning instruments to the trading book. It overhauled the internal model's methodology to better address risks observed during the crisis, reinforced the process for supervisors to approve the use of internal models, and introduced a new, more risk-sensitive standardized methodology.

While monitoring the implementation and impact of the new framework, the Committee acknowledged ongoing implementation challenges and issues in design and calibration. To address these, and give banks more time to develop their infrastructure, the Group of Governors and Heads of Supervision, the Committee's oversight body, in 2017 extended the implementation date to 2022.

In 2018, the Committee proposed a set of targeted revisions to the market risk framework related to the assessment that decides whether a bank's internal risk management models properly reflect the vulnerabilities facing individual trading desks. The consultation also proposed refinements to and recalibrations of the standardized approach.

Changes to the boundary of the banking book and the trading book

The revisions clarify the scope of positions subject to the market risk framework, including the treatment of equity investments in funds and the treatment of foreign currency positions.

Changes to the internal model's approach

The revisions overhaul the design of the profit and loss attribution test to better differentiate between well and poorly performing models. Targeted changes address the impact of non-modellable risk factors (NMRFs).

Changes to the standardized approach

The revisions better align the treatment of foreign currency positions, options, and index instruments with the associated risks. Risk weights are lowered by 30% for general interest rate risk and by 50% for FX risk. Banks with relatively small or simple trading portfolios may continue to use a recalibrated Basel 2.5 standardized approach, subject to supervisory approval.

Compared with Basel 2.5, the amended framework is estimated to increase market risk capital requirements by 22%, on average. Market risk-weighted assets (RWAs) would account for 5% of total RWAs on average, compared with 4% under Basel 2.5.

Measures of market risk:

Value-at-risk (VaR):

A measure of the worst expected loss on a portfolio of instruments resulting from market movements over a given time horizon and a pre-defined confidence level.

Expected shortfall (ES):

A measure of the average of all potential losses exceeding the VaR at a given confidence level, which makes up for VaR's shortcomings in capturing the risk of extreme losses (i.e., tail risk).

Value at Risk (VaR)

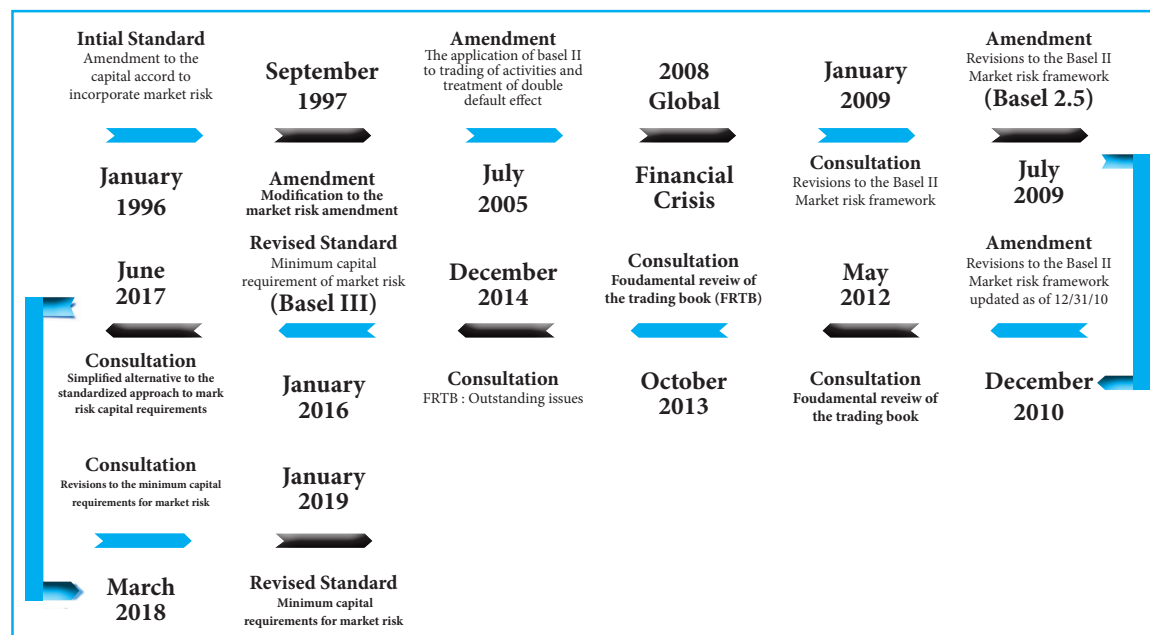
Management of market risk is concerned with the question-How much can we lose? The answer is that there is a possibility that we can lose everything, although it may have a very low probability. VaR attempts to create a more useful answer by altering the question-How much can we expect to lose? Or, what is the loss potential? The answer could be that we can lose a maximum of ₹ X (the VaR) over the next week (time horizon) and may expect that with 99% confidence (i.e., it would be so 99 times out of 100).

VaR is defined as the predicted worst-case loss at a specific confidence level over a certain period assuming 'Normal Trading Conditions'.

A bank having 1day VaR of ₹ 10 crores with a 99% confidence interval means that there is only one chance in 100 (or 2.5 days per year based on 250 working days in a year) that daily loss will be more than 10 crores under normal trading conditions. This also means that there is a 1% chance that the daily loss may exceed ₹. 10 crores under normal trading conditions. It does not estimate losses in abnormal situations.

VaR measures the potential loss in market value under normal circumstances of a portfolio using estimated volatility (rate or price move) and correlations (how rates or prices move about each other), for a given horizon (longer the time horizon, more is the VaR) measured with a given confidence interval. In calculating VaR we consider the volatility of prices and correlation of prices concerning all other assets/liabilities in the portfolio. Normal circumstances refer to the fact that VaR is not a measure when the market is under abnormal conditions.

A history of minimum capital requirements for market risk



Why VaR is Useful?

A good tool for all banks, financial institutions, multinationals, fund managers for the protection of customers, shareholders, employees, and overall franchise of the business. Translates portfolio exposures into the potential impact on Profit and Loss Aggregates and reports multi-product, multi-market exposures into one number. Meets external risk management disclosure and expectations. A vital component of current best practices in risk measurement. Embraced by practitioners, regulators, and academicians. Valuable as a probabilistic measure of potential losses.

Limitation of VaR:

VaR is not a worst-case scenario. It does not measure losses under any particular market conditions. VaR by itself is not sufficient for risk measurement. Measures to get over the limitation include back-testing and model calibration and scenario analysis and stress testing.

Question: If the 1-day VaR of a portfolio is ₹ 50,000/- with a 97% confidence level. In a period of 1 year of 300 trading days, how many times the loss on the portfolio may exceed ₹ 50,000/.

Solution: 97% Confidence Level means loss may exceed the given level (₹ 50,000) on 3 days out of 100.

If out of 100 days loss exceeds the given level on days = 3

Then out of 300 days, the loss exceeds the given level = $3/100 \times 300 = 9$ days.

Question: 1-day VaR of a portfolio is ₹ 50,000/- with a 90% confidence level. In a period of 1 year (250 days) how many times the loss on the portfolio may not exceed ₹ 50,000/-.

Solution: 90% confidence level means on 10 days out of 100, the loss will be more than ₹ 50,000/-.

Out of 250 days, the loss will be more than 50000/- on **25 days**.

2.2.4 Sources of Foreign Exchange Risk Exposure

Increasingly, many businesses have dealings in foreign currencies and, unless exchange rates are fixed concerning one another, this introduces risk. There are three main types of currency risk as detailed below.

Economic risk. The source of economic risk is the change in the competitive strength of imports and exports.

Similarly, goods imported from Europe will be cheaper in sterling than they had been, so those goods will have become more competitive in the UK market. Note that a company can, therefore, experience economic risk even if it has no overt dealings with overseas countries. If competing imports could become cheaper you are suffering risks arising from currency rate movements.

Doing something to mitigate economic risk can be difficult especially for small companies with limited international dealings.

Make goods in the country sell them. Although raw materials might still be imported and affected by exchange rates, other expenses (such as wages) are in the local currency and not subject to exchange rate movements.

Translation risk. This affects companies with foreign subsidiaries. If the subsidiary is in a country whose currency weakens, the subsidiary's assets will be less valuable in the consolidated accounts. Usually, this effect is of little real importance to the holding company because it does not affect its day-to-day cash flows. However, it would be important if the holding company wanted to sell the subsidiary and remit the proceeds. It also becomes important if the subsidiary pays dividends. However, the term 'translation risk' is usually reserved for consolidation effects.

Transaction risk. This arises when a company is importing or exporting. If the exchange rate moves between agreeing on the contract in a foreign currency and paying or receiving the cash, the amount of home currency paid or received will alter, making those future cash flows uncertain.

Dealing with transaction risks

Assuming that the business does not want to tolerate exchange rate risks (and that could be a reasonable choice for small transactions), transaction risk can be treated in the following ways:

1. **Invoice:** Arrange for the contract and the invoice to be in your currency. This will shift all exchange risk from you onto the other party. Of course, who bears the risk will be a matter of negotiation, along with price and other payment terms. If you are very keen to get a sale to a foreign customer you might have to invoice in their currency.

But this approach does not remove foreign exchange risk. It only transfers it to the other party. Moving exchange rates obscure the true cost of products, and many consumers will expect to lower prices considerably to account for that. Invoicing in local currency can give the advantage in sales price negotiations and the opportunity to increase margins, because all the foreign exchange risk has been absorbed and is no longer customer's concern.

Forcing customers to bear the burden of currency risk is becoming a less feasible option. Global customers are increasingly sophisticated and shrewd because of increasing competition. Buyers eliminate their own risk by shopping around—they'll look to local suppliers or international businesses willing to invoice in their local currency. Meeting customers half way, so that they can pay in their own local currencies, can be the difference between success and failure when entering an overseas market.

Invoicing in local currency is one of the ways to make business proposition more attractive, but it's also important to ensure business has a comprehensive foreign exchange risk strategy in place. Exchange rate movements make profits vulnerable. Any rate change in the time between invoicing sales in a foreign currency and converting the revenue into domestic currency can significantly increase or decrease the amount will

actually receive. It is important to hedge against this volatility so that protect cash flow if the markets move against business of the Company.

Many large, internationally well-established companies are already using this method of invoicing and are able to manage the associated risks.

2. **Netting:** If you owe your Japanese supplier ¥1m, and another Japanese company owes your Japanese subsidiary ¥1.1m, then by netting off group currency flows your net exposure is only for ¥0.1m. This will only work effectively when there are many sales and purchases in the foreign currency. It would not be feasible if the transactions were separated by many months. Bilateral netting is where two companies in the same group cooperate as explained above; multilateral netting is where many companies in the group liaise with the group's treasury department to achieve netting where possible.

Assume Widget Co., located in Canada, has imported machinery from the United States and regularly exports it to Europe. The company must pay \$10 million to its U.S. machinery supplier in three months, at which time it is also expecting a receipt of EUR 5 million and CHF 1 million for its exports. The spot rate is EUR 1 = USD 1.35, and CHF 1 = USD 1.10. How can Widget Co. use exposure netting to hedge itself?

The company's net currency exposure is USD \$2.15 million (i.e., USD \$10 million - $[(5 \times 1.35) + (1 \times 1.10)]$). If Widget Co. is confident that the Canadian dollar will appreciate over the next three months, it would do nothing, since a stronger Canadian dollar would result in U.S. dollars becoming cheaper in three months. On the other hand, if the company is concerned the Canadian dollar may depreciate against the U.S. dollar, it may elect to lock in its exchange rate for three months through a forward contract or a Currency Option. Exposure netting is thus a more efficient way of managing currency exposure by viewing it as a portfolio, rather than hedging each currency exposure separately.

3. **Matching:** If you have a sales transaction with one foreign customer, and then a purchase transaction with another (but both parties operate with the same foreign currency) this can be efficiently dealt with by opening a foreign currency bank account. There aren't many businesses that can simply keep money in a foreign currency bank account for months on end.

Example:

1 November: should receive US\$2m from US customer

15 November: must pay US\$1.9m to US supplier.

Deposit the US\$2m in a US\$ bank account and simply pay the supplier from that. That leaves only US\$0.1m of exposure to currency fluctuations. Usually, for matching to work well, either specific matches are spotted (as above) or there have to be many import and export transactions to give opportunities for matching. Matching would not be feasible if received US\$2m in November but didn't have to pay US\$1.9m until the following May.

4. **Leading and lagging:** Let's imagine planning to go to Spain and believing that the euro will strengthen against your currency. It might be wise for you to change your spending money into euros now. That would be 'leading' because you are changing your money in advance of when you need to. Of course, the euro might weaken and then you'll want to kick yourself, but remember: managing transaction risk is not about maximizing your income or minimizing your expenditure, it is about knowing for certain what the transaction will cost in your currency. Let's say, however, that you believe that the euro is going to weaken. Then you would not change your money until the last possible moment. That would be 'lagging', delaying the transaction. Note, however, that this does not reduce your risk. The euro could suddenly strengthen and your holiday would turn out to be unexpectedly expensive. Lagging does not reduce risk because you still do not know your costs. Lagging is simply taking a gamble that your hunch about the weakening euro is correct.

When a corporation or government entity has the ability to control the schedule of payments being received or made, then that organization may opt to pay earlier than or delay the payment later than scheduled.

These changes would be made in anticipation of capturing the benefit from a change in currency exchange rates. These dynamics hold true both for small and large transactions. If a company in one country were about to acquire a corporate asset in another country, and the target company's country currency was expected to decrease in value relative to the acquiring company's country, then delaying the purchase would be in the interest of the acquiring company.

A strengthening of the currency being paid out would lead to a decreased pay-out for the entity in question, while a weakening of the currency would lead to increased costs the longer the payment was delayed. Because it amounts to a timing strategy, leading and lagging implies risks. A lack of proper execution may result in an unfavourable outcome.

When a business has an expected foreign exchange transaction as the result of a deal, it may need to buy or sell a certain currency. If the company believes the currency may move in a certain direction, they may choose to speed up the transaction or delay it to take advantage of the potential outcome. Normal price movement from supply and demand between countries can be very difficult to forecast, but certain political events may have a known timeline and can be more easily anticipated.

Accelerating a transaction is known as "leading" while slowing it down is known as "lagging." For example, if a U.S. company has agreed to buy a Canadian asset, then it will need to buy Canadian dollars and sell U.S. dollars to complete the transaction.

If the company believes the Canadian dollar is going to strengthen against the U.S. dollar, they will accelerate the transaction (lead) before the price of the asset increases in U.S. dollar terms. Conversely, if the company believes the Canadian dollar will weaken, they will hold off payment (lag) in the hope the asset becomes cheaper in U.S. dollar terms.

5. **Forward exchange contracts:** A forward exchange contract is a binding agreement to sell (deliver) or buy an agreed amount of currency at a specified time in the future at an agreed exchange rate (the forward rate).

In practice, there are various ways in which the relationship between a current exchange rate (spot rate) and the forward rate can be described. Sometimes it is given as an adjustment to be made to the spot rate; in the F9 exam, for example, the forward rates are quoted directly.

6. **Money market hedging:** Let's say that you were a UK manufacturer exporting to the US and in three months you are due to receive US\$2m. You would suffer no currency risk if that US\$2m could be used then to settle a US\$2m liability; that would be matching the currency inflow and outflow.

A money market hedge is a technique used to lock in the value of a foreign currency transaction in a company's domestic currency. Therefore, a money market hedge can help a domestic company reduce its exchange rate or currency risk when conducting business transactions with a foreign company. It is called a money market hedge because the process involves depositing funds into a money market, which is the financial market of highly liquid and short-term instruments like Treasury bills, bankers' acceptances, and commercial paper.

The money market hedge allows the domestic company to lock in the value of its partner's currency (in the domestic company's currency) in advance of an anticipated transaction. This creates certainty about the cost of future transactions and ensures the domestic company will pay the price that it wants to pay.

Without a money market hedge, a domestic company would be subject to exchange rate fluctuations that could dramatically alter the transaction's price. While changes in exchange-rate rates could cause the transaction to become less expensive, fluctuations could also make it more expensive and possibly cost-prohibitive.

A money market hedge offers flexibility in regard to the amount covered. For example, a company may only want to hedge half of the value of an upcoming transaction. The money market hedge is also useful for hedging in exotic currencies, such as the South Korean won, where there are few alternate methods for hedging exchange rate risk.

Example:

Suppose an American company knows that it needs to purchase supplies from a German company in six months and must pay for the supplies in euros rather than dollars. The company could use a money market hedge to lock in the value of the euro relative to the dollar at the current rate so that, even if the dollar weakens relative to the euro in six months, the U.S. company knows exactly what the transaction cost is going to be in dollars and can budget accordingly. The money market hedge would be executed by:

- Buying the current value of the foreign currency transaction amount at the spot rate.
- Placing the foreign currency purchased on deposit with a money market and receiving interest until payment is made.
- Using the deposit to make the foreign currency payment.

A bond is a debt instrument. When an investor buys a bond, they give a loan to the issuing entity (generally a company or a government entity). The investors are paid interest as per defined time intervals. The principal amount is repaid at the end of the tenure. Risks associated while investing in bonds are Credit risk, Liquidity risk & Interest rate risk. Benefits of investing in Bonds are:

1. Higher returns compared to FD
2. Less volatility & lower risk than equity
3. Offers stable & predictable cash flows

Here, we provide an overview of some important bonds:

1. Eurobond:

A Eurobond is a fixed-income debt instrument (security) denominated in a different currency than the local one of the countries where the bond's been issued. Hence, it is a unique type of bond.

Eurobonds allow corporations to raise funds by issuing bonds in a foreign currency. The bonds are also called external bonds because they can be originated in a foreign currency (external currency).

If a Eurobond is denominated in US dollars, then it can be called a euro-dollar bond. If it is denominated in Chinese yuan, then this would be named euro-yuan bond.

The essence of Eurobonds is that a company can choose any country to issue bonds depending on its economic and regulatory environment (e.g., interest rates in the country, economic cycle, market sizes, etc.). What makes the bonds attractive among investors is a small notional amount of a bond (face value or par value), which means that the bond is relatively cheap to obtain.

Importantly, Eurobonds are highly liquid and can be converted into cash within one fiscal year.

The categorization of Eurobonds is dependent on the currency in which the bonds were issued. If a US-based company decides to release Eurobonds in China in British pounds, then the bonds will be categorized as euro-pound bonds.

Typically, financial institutions, such as investment banks, issue bonds on behalf of the borrower. If a bank will be responsible for the underwriting process, it implies a guarantee to the borrower that the whole bond issue will be

sold in the primary market during the initial debt offering process.

“Eurobond” refers only to the fact that the bond was issued in a different country and currency. It does not need to be a country in Europe. It can be whatever country in the world.

For example, Eurobonds can be issued in China and denominated in US Dollars. Eurobonds are issued by many institutions, such as:

- Corporations
- Governments
- Syndicates

The primary reason for issuing Eurobonds is a need for foreign currency capital. Since the bonds are fixed-income securities; they usually offer a fixed interest rate to investors.

An example, a US company aims to permeate into a new market and plans to erect a large factory, say, in China. The company will need to invest large sums of money in local currency -the Chinese yuan. As the company is a new entrant to the Chinese market, it may lack access to credit in China.

The company decides to go with yuan-denominated Eurobonds in the United States. Investors who hold yuan in their accounts will invest in the bonds, which will provide funds to a new facility in China. If a new factory is profitable, the cash flow will go to settling the interest to US-based bondholders.

Benefits to Issuers:

A list of benefits to Eurobond issuers consists of the following:

1. Flexibility to choose a favourable country to originate bonds and currency
2. A country choice with lower interest rates
3. Avoidance of currency risk or forex risk by using Eurobonds
4. Access to a huge range of bond maturity periods that can be chosen by the issuer
5. International bond trade despite being issued in a certain country that broadens potential investor base

Benefits to Investors:

The main benefit to local investors in purchasing a Eurobond is that it provides exposure to foreign investments staying in the home country. It also gives a sense of diversification, spreading out the risks.

As mentioned previously, Eurobonds are pretty cheap, with a small face value and are highly liquid.

If a Eurobond is denominated in a foreign currency and issued in a country with a strong economy (and currency), then the bond liquidity rises.

2. Junk Bond:

A junk bond, also known as a speculative-grade bond, is a high-yielding fixed income security with a high risk of default on payment.

When buy bonds, lending money to the bond issuer-a company or a government entity-that promises to pay back with interest when the bonds mature. The thing is, not all companies can deliver on that promise.

That's where bond ratings come in. They are letter grades issued by an independent bond ratings agency-Standard & Poor, Moody's or Fitch-that suggest the likelihood a company will repay what it borrows. Like in school, A's and B's are generally better and indicate a high chance of repayment, while lower letter grades signal a company's

bonds may be a risky bet.

Securities with a rating of BBB (or Baa on Moody's scale) or higher are considered "investment-grade" bonds, meaning the bond rating agency thinks it's pretty likely investors will get their money back. But bonds with a rating below BBB/Baa have a higher likelihood of failure to repay their debts, and they're called speculative-grade or non-investment grade bonds. They're normally issued by companies that are relatively new or that have faced recent financial difficulties.

Junk Bond Pros:

- Junk bonds have higher potential for bigger profits. Because of the increased risk, junk bonds tend to have higher yields than investment-grade bonds.
- Bonds may appreciate if an issuer improves. If a company is actively paying down its debt and improving its performance, the bond can appreciate in value as its issuing company's rating improves.
- More dependable than individual stocks. While they're riskier than investment-grade bonds, they may not be as risky as individual stocks. For example, if a company goes bankrupt, bondholders are paid back before stockholders.

Junk Bond Cons:

- Junk bonds have higher default rates. Junk bonds typically have a higher potential for default than investment-grade bonds. According to S&P Global Ratings, the default rate for junk bonds was 5.5% in 2020. By contrast, the default rate for investment-grade bonds is 0.00%.
- Lack of liquidity. High-yield bonds sometimes have liquidity issues, meaning it may be difficult to sell them for cash when need it.
- Junk bond values can fall if credit ratings are downgraded. The value of junk bonds can decrease. If a company's credit rating drops even lower, the bond will become worth even less.

3. Green Bond (ESG Compliance):

The Green Bond market in India has achieved various milestones since 2015, when Yes Bank issued India's first ever Green Bond. A large number of corporations in the renewable energy sector have cashed on this opportunity to raise capital and attract foreign investment. In August 2016, the National Thermal Power Corporation (NTPC) became the first Indian corporate entity to list the first green masala bond on London Stock Exchange. In 2018, the State Bank of India raised USD 650 million by way of Green Bonds to fund sustainable and eco-friendly projects. In the first half of 2019, India became the second largest Green Bond market after the People's Republic of China, having executed green bond transactions worth USD 10.3 billion.

In order to encourage and multiply environmentally sustainable investments, became a part of the International Platform on Sustainable Finance (IPSF) in 2019. The IPSF aims at scaling up the mobilisation of private capital towards environmentally sustainable projects.

India is amongst the first few countries in the world to have laid down a statutory framework to regulate Green Bonds.

Regulatory Framework:

Indian regulators have played an active role in this regard and have been successful in foreseeing the growth and impact of Green Bonds in the Indian market. In 2017, SEBI issued the Disclosure Requirements for Issuance and Listing of Green Debt Securities (Disclosure Requirements), in which green debt securities have been specifically defined. SEBI, via the Disclosure Requirements, calls on the issuer of the green bond (a debt security instrument) to make certain disclosures, including:

- A statement on the environmental objectives of the issuance.
- Details of the procedures to be employed for tracking the deployment of the proceeds of the issue, and
- Details of the project and/or assets for which the issuer proposes to utilise the proceeds of these green debt securities.

The Reserve Bank of India (RBI), in addition to the above SEBI guidelines, has passed regulatory reforms to strengthen the corporate bond market in India. The Green Bond market is essentially a subset of the corporate bond market and therefore, for Green Bonds to be recognised, the bond market needed to undergo further reforms as well. RBI has increased the extent of partial credit enhancement to 50% of the bond issue size, with a limit up to 20% of the bond issue size for a particular bank. This move has led to provide additional comfort to the investors.

Advantages:

Green Bonds have been rapidly emerging in the Indian market in recent years and have caught the eye of many investors for various reasons. The proliferation of Green Bonds will help in financing eco-friendly projects and technology, as well as with attracting foreign investments due to the sudden growth in the energy sector globally. Green Bonds also have intangible value -they enhance the issuer's reputation and showcase their commitment towards sustainable development.

Challenges:

In accordance with a working paper published by the RBI titled 'Green Finance in India: Progress and Challenges', Green Bonds make up only 0.7 per cent of all the bonds issued in India.

Importantly, Green Bonds have a relatively low interest rate viz. loans offered by commercial banks, this is a comparative disadvantage they will face, in being seen as a viable profitable avenue for investment. In general, larger investments imply faster access to debt for the companies and banks who are at the receiving end of this funding, resulting in higher yields.

Some of the challenges faced by Green Bonds in the Indian market are as follows:

Higher Costs: The cost of issuing Green Bonds has remained higher than that of other bonds in India. This can be attributed to the lack of a national reporting and verification platform for tracking climate finance, lack of coordination between investment and environmental policies and the insufficiency of policy and benefits framework at the national and state level.

Shorter tenure, uncertain returns: Green Bonds in India have a shorter tenure of approximately 10 years while the tenure of a general loan is of a minimum of 13 years. Furthermore, green projects often end up taking more time to showcase returns.

Lack of credit ratings for green bond market: There is a lack of credit ratings for Green Bonds or Green Projects that ends up affecting the creditworthiness of such projects.

Greenwashing: There have been several instances wherein the proceeds of Green Bonds have been used in projects that in reality have a negligible (or sometimes even negative!) impact on the environment. This is known as "green washing", and makes the whole point of issuing Green Bonds redundant.

While the Indian government has been proactive in defining and regulating the Green Bond market in India, there are certain steps that need to be taken globally, in order to overcome the challenges that exist. For instance, it is extremely important to align international and domestic guidelines and standards for Green Bonds, in order to establish a standardised market for these instruments. It is also important to have a standard global definition of what is considered a 'green' investment'-for tax considerations as well as to avoid greenwashing. Since Green Bonds are themselves a relatively new concept, it is imperative to spread knowledge on the advantages, as well as

the procedures and ancillary information, in relation to Green Bonds. Creating awareness would help in addressing the institutional barriers to entry, into this market.

4. Masala Bond:

Masala Bonds were introduced in India in 2014 by International Finance Corporation (IFC). The IFC issued the first masala bonds in India to fund infrastructure projects. Indian entities or companies issue masala bonds outside India to raise money. The issue of these bonds is in Indian currency rather than local currency. Thus, if the rupee rate falls, the investor will bear the loss.

Masala Bonds are rupee-denominated bonds issued outside India by Indian entities. They are debt instruments which help to raise money in local currency from foreign investors. Both the government and private entities can issue these bonds. Investors outside India who would like to invest in assets in India can subscribe to these bonds. Any resident of that country can subscribe to these bonds which are members of the Financial Action Task Force. The investors who subscribe should be whose securities market regulator is a member of the International Organisation of Securities Commission. Multilateral and Regional Financial Institutions which India is a member country can also subscribe to these bonds.

According to RBI, the maturity period is three years for the bonds raised to the rupee equivalent of 50 million dollars in a financial year. The maturity period is five years for the bonds raised above the rupee equivalent of 50 million dollars in a financial year. The conversion of these bonds happens at market rate on the date of settlement of transactions undertaken for issue and servicing of interest of the bonds.

The proceeds raised from these bonds can be used:

- In refinancing of rupee loan and non-convertible debentures.
- For the development of integrated townships and affordable housing projects.
- Working capital to corporate.

RBI mandates the proceeds raised from these bonds cannot be used:

- In real estate activities, not including the development of integrated townships and affordable housing projects.
- Activities prohibited according to Foreign Direct Investment guidelines.
- Investing in capital markets and usage of the proceeds for equity investment domestically.
- Purchase of land.
- On-lending to other entities for any of the above purposes.

Benefits Of Masala Bonds:

Masala bonds have various benefits. Both the investors and borrowers get benefits from subscribing and issuing of these bonds. The benefits for the investors are:

- It offers higher interest rates and thus benefits the investor.
- It helps in building up foreign investors' confidence in the Indian economy.
- It helps strengthen the foreign investments in the country as it facilitates foreign investors' confidence in Indian currency.
- The capital gains arising from rupee denomination are exempted from tax.
- If the rupee appreciates at the time of maturity, it benefits the investor.

The benefits for the borrowers are:

- It benefits the borrower as there is no currency risk. It saves the borrower from currency fluctuations.
- Borrowers need not worry about rupee depreciation as the issuance of these bonds is in Indian currency rather than foreign currency.
- The borrower can mobilise a huge amount of funds.
- It helps the Indian entity issuing these bonds to diversify their portfolio.
- It aids borrowers to cut down their cost as they are issued outside India below 7% interest rate.
- As these bonds issuing are in the offshore market, it helps borrowers to tap a large number of investors.

Methods of Exchange Risk Hedging:

There are two other methods of exchange risk hedging which you are required to know about, but you will not be required to solve numerical questions relating to these methods. They involve the use of derivatives: financial instruments whose value derives from the value of something else – like an exchange rate.

1. Currency futures. Simply think of these as items you can buy and sell on the futures market and whose price will closely follow the exchange rate. Let's say that a US exporter is expecting to receive €5m in three months and that the current exchange rate is US\$/€1.24. Assume that this rate is also the price of US\$/€ futures. The US exporter will fear that the exchange rate will weaken over the three months, say to US\$/€1.10 (that is fewer dollars for a euro). If that happened, then the market price of the future would decline too, to around 1.1. The exporter could arrange to make a compensating profit on buying and selling futures: sell now at 1.24 and buy later at 1.10. Therefore, any loss made on the main currency transaction is offset by the profit made on the futures contract.

This approach allows hedging to be carried out using a market mechanism rather than entering into the individually tailored contracts that the forward contracts and money market hedges require. However, this mechanism does not offer anything fundamentally new.

Example 1: Currency futures issued by banks, serve the same purpose as the forward contract. However, they being the standardized contracts, can be sold on stock exchanges. The currency forward contracts are on-the-counter product only. Currency futures are traded for major currencies such as Euro, Pound, Yen, Australian and Canadian Dollar.

For example, a contract of Pound 10,000 is traded at London Financial & Futures Exchange (LIFFE) for delivery on January 22 at 2.105 US \$.

This means that on January 22, the seller shall deliver to the holder of the contract Pound 10,000 against payment in US \$ at 2.105 per Pound.

If on the settlement date, the market rate is higher, the seller shall pay to the holder, the difference in the contract price and spot price. If, on the other hand, the market rate is lower than the contracted price, the buyer of contract shall bear the loss. Being a futures contract, the contract has to be performed by both the parties.

Example 2: An example that involves currency futures. Say purchase 8 future Euro contracts (€125,000 per contract) at 0.89 US\$/€. At the end of the day, the settlement price has moved to 0.91 US\$/€. How much lost or profited?

The price has increased meaning have profited. The calculation to determine how much profited is as follows:

$$(0.91 \text{ US}/\text{€} - 0.89 \text{ US}/\text{€}) \times \text{€}125,000 \times 8 = 20,000 \text{ US\$}$$

Basis risk can arise for both interest rate and exchange rate hedging through the use of futures. Futures contracts will suffer from basis risk if the value of the futures contract does not match the underlying exposure. This occurs

when changes in exchange or interest rates are not exactly correlated with changes in the futures prices.

Note that another form of basis risk also exists as part of interest rate risk. In this case, basis risk exists where a company has matched its assets and liabilities with a variable rate of interest, but the variable rates are set concerning different benchmarks. For example, deposits may be linked to the one-month LIBOR rate, but borrowings may be based on the 12-month LIBOR rate. It is unlikely that these rates will move perfectly in line with each other and therefore this is a source of interest rate risk.

2. Options. Options are radically different. They give the holder the right, but not the obligation, to buy or sell a given amount of currency at a fixed exchange rate (the exercise price) in the future (if you remember, forward contracts were binding). The right to sell a currency at a set rate is a put option (think: you ‘put’ something up for sale); the right to buy the currency at a set rate is a call option.

Options can be regarded just like an insurance policy on your house. If your house doesn’t burn down, you don’t call on the insurance, but neither do you get the premium back. If there is a disaster the insurance should prevent massive losses. Options are also useful if you are not sure about cash flow. For example, say you are bidding for a contract with a foreign customer. You don’t know if you will win or not, so don’t know if you will have foreign earnings, but want to make sure that your bid price will not be eroded by currency movements. In those circumstances, an option can be taken out and used if necessary or ignored if you do not win the contract or currency movements are favourable.

2.2.5 Foreign Asset and Liability Positions

A matched currency risk position will protect a bank against loss from movements in exchange rates, but will not necessarily protect its capital adequacy ratio. If a bank has its capital denominated in its domestic currency and has a portfolio of foreign currency assets and liabilities that are completely matched, its capital/asset ratio will fall if the domestic currency depreciates.

By running a short risk position in the domestic currency, the bank can protect its capital adequacy ratio, although the risk position would lead to a loss if the domestic currency were to appreciate. Supervisory authorities are free to allow banks to protect their capital adequacy ratio in this way and exclude certain currency risk positions from the calculation of net open currency risk positions, subject to meeting each of the following conditions:

1. The risk position is taken or maintained for the purpose of hedging partially or totally against the potential that changes in exchange rates could have an adverse effect on its capital ratio.
2. The risk position is of a structural (i.e., non-dealing) nature such as positions stemming from:
 - a. investments in affiliated but not consolidated entities denominated in foreign currencies; or
 - b. investments in consolidated subsidiaries or branches denominated in foreign currencies.
3. The exclusion is limited to the amount of the risk position that neutralizes the sensitivity of the capital ratio to movements in exchange rates.
4. The exclusion from the calculation is made for at least six months.
5. The establishment of a structural FX position and any changes in its position must follow the bank’s risk management policy for structural FX positions. This policy must be preapproved by the national supervisor.
6. Any exclusion of the risk position needs to be applied consistently, with the exclusionary treatment of the hedge remaining in place for the life of the assets or other items.
7. The bank is subject to a requirement by the national supervisor to document and have available for supervisory review the positions and amounts to be excluded from market risk capital requirements.

2.2.6 Interaction of Interest Rate

Interest rates aren't only the result of the interaction between the supply and demand for money; they also reflect the level of risk investors and lenders are willing to accept. This is the risk premium.

Suppose an investor has excess present money and he's willing to lend or invest the extra cash over the next two years. There are two possible investments for his present money—one offering a 5% interest rate and the other offering a 6% interest rate.

It's not immediately clear which he should choose because he needs to know the likelihood that he'll be paid back. If the 6% seems riskier than the 5%, he may choose the lower rate or ask the 6% buyer to raise his rate to a premium commensurate with the assumed risk.

2.2.7 Inflation and Exchange Rates

Inflation is closely related to interest rates, which can influence exchange rates. Countries attempt to balance interest rates and inflation, but the interrelationship between the two is complex and often difficult to manage. Low-interest rates spur consumer spending and economic growth and generally have positive influences on currency value. If consumer spending increases to the point where demand exceeds supply, inflation may ensue, which is not necessarily a bad outcome. But low-interest rates do not commonly attract foreign investment. Higher interest rates tend to attract foreign investment, which is likely to increase the demand for a country's currency.

The ultimate determination of the value and exchange rate of a nation's currency is the perceived desirability of holding that nation's currency. That perception is influenced by a host of economic factors, such as the stability of a nation's government and economy. Investors' first consideration regarding currency, before whatever profits they may realize, is the safety of holding cash assets in the currency. If a country is perceived as politically or economically unstable, or if there is any significant possibility of a sudden devaluation or other change in the value of the country's currency, investors tend to shy away from the currency and are reluctant to hold it for significant periods or in large amounts.

Other Factors Affecting Exchange Rate:

Beyond the essential perceived safety of a nation's currency, numerous other factors besides inflation can impact the exchange rate for the currency. Such factors as a country's rate of economic growth, its balance of trade (which reflects the level of demand for the country's goods and services), interest rates, and the country's debt level are all factors that influence the value of a given currency. Investors monitor a country's leading economic indicators to help determine exchange rates. Which one of many possible influences on exchange rates predominates is variable and subject to change? At one point in time, a country's interest rates may be the overriding factor in determining the demand for a currency. At another point in time, inflation or economic growth can be a primary factor.

Exchange rates are relative, especially in the modern world of fiat currencies where virtually no currencies have any intrinsic value, say, as defined in terms of gold, for which the currency could be exchanged. The only value any country's currency has is its perceived value relative to the currency of other countries or its domestic purchasing power. This situation can influence the effect that inputs such as inflation have on a country's exchange rate. For example, a country may have an inflation rate that is generally considered high by economists, but if it is still lower than that of another country, the relative value of its currency can be higher than that of the other country's currency.

2.2.8 Hedging Market Risk

How to hedge market risk:

Hedging is defined as holding two or more positions at the same time with the intent of offsetting any losses from one position with gains from another. Hedging market risk is one way to manage your trading risk. Many traders appreciate that certain risks are necessary and could give them the long-term returns that they're looking for but hedging offers some risk protection while giving traders the exposure they want.

Hedging strategy will depend on the market you're trading.

Options trading:

An option is a financial instrument that offers the holder the right, but not the obligation, to buy or sell an asset at a set price within a set period. Options Trading allows you to hedge against your positions through delta hedging and risk reversal.

Delta hedging:

If you're trading the stock market, delta hedging can help you to reduce the risk of negative price movements in the underlying market. 'Delta' is the amount an option's price will move when its underlying asset changes one point in price.

Risk reversal:

Risk reversal can protect a traders' long or short positions throughput and call options. For example, if you're a commodities trader and you open a short position on 200 units of soybeans, you can hedge it by buying a put and call option, both for 200 units of soybeans. If the price of soybeans rises, the call option will become more valuable and offset any losses to the short position. If the price of soybeans fell instead, you would profit from the short position but only to the strike price of the put option.

Example: Let's use Microsoft Corp to illustrate the design of a risk reversal strategy for speculation, as well as for hedging a long position.

Microsoft closed at \$ 41.11 on June 10, 2014.¹ At that point, the MSFT October \$ 42 calls were last quoted at \$ 1.27 / \$ 1.32, with an implied volatility of 18.5%. The MSFT October \$ 40 puts were quoted at \$ 1.41 / \$ 1.46, with an implied volatility of 18.8%.

Speculative trade (Synthetic long position or bullish risk reversal)

- Write 5x the MSFT October \$ 40 puts at \$1.41, and buy 5x the MSFT October \$ 42 calls at \$1.32.
- Net credit (excluding commissions) = \$ 0.09 x 5 spreads = \$ 0.45.

Points to be noted:

- With MSFT last traded at \$ 41.11, the \$ 42 calls are 89 cents out-of-the-money (OTM), while the \$ 40 puts are \$1.11 OTM.
- The bid-ask spread has to be considered in all instances. When writing an option (put or call), the option writer will receive the bid price, but when buying an option, the buyer has to shell out the ask price.
- Different option expirations and strike prices can also be used. For instance, the trader can go with the June puts and calls rather than the October options, if they think that a big move in the stock is likely in the one

and a half weeks left for option expiry. But while the June \$42 calls are much cheaper than the October \$42 calls (\$ 0.11 vs. \$ 1.32), the premium received for writing the June \$ 40 puts is also much lower than the premium for the October \$ 40 puts (\$ 0.10 vs. \$ 1.41).

Futures contracts:

Futures are contracts to trade a financial market at a defined price on a fixed date in the future. With futures contracts, you can hedge against your positions on commodities, stocks, bonds, and more. Futures contracts eliminate the uncertainty about the future price of security because they enable you to lock in a price at which you want to buy or sell in the future. That way, you can offset your price movement risk.

2.2.9 Dynamic Hedging Strategies

Hedging in finance refers to protecting investments. A hedge is an investment status, which aims at decreasing the possible losses suffered by an associated investment. Hedging is used by those investors investing in market-linked instruments. To hedge, you technically invest in two different instruments with adverse correlation. The best example of hedging is availing of car insurance to safeguard your car against damages arising due to an accident. The hedging techniques are not only employed by individuals but also by asset management companies (AMCs) to mitigate various risks and to avoid the potential negative impacts. Hedging does not prevent the investments from suffering losses, but it just reduces the extent of negative impact. Hedging is employed in the following areas:

Securities Market: This area includes investments made in shares, equities, indices, and so on. The risk involved in investing in the securities market is known as equity or securities risk.

Interest Rate: This area includes borrowing and lending rates. The risk associated with the interest rates is termed the interest rate risk.

Weather: This might seem interesting, but hedging is possible in this area as well.

Currencies: This area comprises foreign currencies and has various associated risks such as volatility and currency risk. **Securities Market:** This area includes investments made in shares, equities, indices, and so on. The risk involved in investing in the securities market is known as equity or securities risk.

Commodities Market: This area includes metals, energy products, farming products, and so on. The risk entailed in investing in the commodities market is referred to as the commodity risk.

Interest Rate: This area includes borrowing and lending rates. The risk associated with the interest rates is termed the interest rate risk.

Weather: This might seem interesting, but hedging is possible in this area as well.

Currencies: This area comprises foreign currencies and has various associated risks such as volatility and currency risk.

Types of Hedging Strategies:

Hedging strategies are broadly classified as follows:

Forward Contract: It is a contract between two parties for buying or selling assets on a specified date, at a particular price. This covers contracts such as forwarding exchange contracts for commodities and currencies.

Futures Contract: This is a standard contract between two parties for buying or selling assets at an agreed price and quantity on a specified date. This covers various contracts such as a currency futures contract.

Money Markets: These are the markets where short-term buying, selling, lending, and borrowing happen with

maturities of less than a year. This includes various contracts such as covered calls on equities, money market operations for interest, and currencies.

How do Investors Hedge:

The AMC's generally employ the following hedging strategies to mitigate losses:

Asset Allocations: This is done by diversifying an investor's portfolio with various classes of assets. For instance, you can invest 40% in the equities market and the rest in stable asset classes. This balances your investments.

Structure: This is done by investing a certain portion of the portfolio in debt instruments and the rest in derivatives. Investing in debt provides stability to the portfolio while investing in derivatives protects you from various risks.

Through Options: This strategy includes options of calls and puts of assets. This facilitates you to secure your portfolio directly.

Advantages of Hedging:

- Hedging limits, the losses to a great extent.
- Hedging increases liquidity as it facilitates investors to invest in various asset classes.
- Hedging requires a lower margin outlay and thereby offers a flexible price mechanism.

Hedging provides a means for traders and investors to mitigate market risk and volatility. It minimizes the risk of loss. Market risk and volatility are an integral part of the market, and the main motive of investors is to make profits. However, you are not in a position to control or manipulate markets to safeguard your investments. Hedging might not prevent losses, but it can considerably reduce the effect of negative impacts.

To Sum Up:

Banks also have several activities and undertake transactions that result in market exposure. They are not immune to these risks and have to face them too. All such transactions are reflected in the trading book.

A trading book consists of a bank's proprietary positions in financial instruments covering:

- Debt Securities.
- Equity.
- Foreign Exchange.
- Commodities (not permitted in our country presently).
- Derivatives held for Trading.

The trading book also includes positions in financial instruments arising from matched principal brokering and market making, or positions taken to hedge other elements of the trading book.

The proprietary positions are held with trading intent and to benefit in the short-term, from actual and/or expected differences between their buying and selling prices or hedging other elements in the trading book.

A bank's trading book exposure has the following risks, which arise due to adverse changes in the market variables such as interest rates, currency exchange rate, Commodity prices, market liquidity, etc., and their volatilities impact the bank's earnings and capital adversely.

1. Market Risk.
2. Liquidity Risk.
 - Asset Liquidity Risk.
 - Market Liquidity Risk.
 - Credit and Counterparty risks.

Note: The market liquidity risk is different from funding the liquidity risk that arises due to asset-liability mismatch

and is a subject matter of Asset Liability management.

The 'Market risk' is an umbrella term used for multiple types of risk associated with adverse changes in market variables that include Liquidity Risk, Interest rate risk, Foreign exchange rate risk, and equity price risk. Market risk causes substantial changes in the income and economic value of banks. The Bank of International Settlements (BIS) defines market risk as "the risk that the value of 'on' or 'off-balance-sheet positions will be adversely affected by movements in equity and interest rate markets, currency exchange rates and commodity prices". Basel II Framework offers a choice between two broad methodologies in measuring market risks for capital adequacy viz.,

- (1) The Standardised Measurement Method
- (2) The Internal Models Approach (IMA)

Standardized Measurement Method: In January 2016, the Basel Committee on Banking Supervision (BCBS) published revised standards for minimum capital requirements for market risk (Standards). The Standards replace the existing requirements for market risk. The Standardised Approach (SA) comprises three main blocks viz. the sensitivities-based method (SBM), the default risk charge (DRC), and the residual risk add-on (RRAO). Each block covers specific types of risk that are relevant in the context of market risk. A risk charge is computed for each of the three blocks, the sum of which is the overall risk charge for market risk under the SA. No diversification benefits are allowed across the three blocks.

The Internal Models Approach (IMA): IMA is the alternative methodology that allows banks to use risk measures derived from their internal market risk management models. The permissible models under IMA are the ones that calculate a Value-at-Risk (VaR) – based measure of exposure to market risk. VaR-based models could be used to calculate measures of both general market risk and specific risk. As compared to the SMM, IMA is considered to be more risk-sensitive and aligns the capital charge for market risk more closely to the actual losses likely to be faced by banks due to movements in the market risk factors. This method is subject to the explicit approval of the supervisory authority.

Caselet-1:

International Bank has following assets and liabilities in its balance-sheet as on March 31, 2022:

Capital	₹ 4,000 Crores
Reserves	₹ 24,000 Crores
Saving Bank Accounts	₹ 1,2,000 Crores
Term Deposits	₹ 1,20,000 Crores
Borrowing from RBI	₹ 12,000 Crores
Cash Balances	₹ 27,000 Crores
Balances with other Banks	₹ 60,000 Crores
Investment in Securities	₹ 60,000 Crores
Bills Payable	₹ 8,000 Crores
Cash Credit	₹ 80,000 Crores
Term Loan	₹ 80,000 Crores and
Fixed Assets	₹ 12,400 Crores
Total Assets and Total Liabilities	₹ 4,00,000 Crores.

The term loans have a fixed rate of interest. Based on this information, answer the following questions.

- What is the amount of interest-rate-sensitive assets?
 - ₹ 2,52,000
 - ₹ 3,20,000
 - ₹ 3,60,000
 - ₹ 4,00,000
- What is the amount of interest rate sensitive liabilities?
 - ₹ 2,52,000
 - ₹ 3,20,000
 - ₹ 3,60,000
 - ₹ 4,00,000
- In this case, how much and what type of gap in rate-sensitive assets and liabilities, the bank is having?
 - ₹ 1,08,000 Crores Negative gap.
 - ₹ 1,08,000 Crores Positive gap.
 - ₹ 1,20,000 Crores negative gap.
 - Information is Inadequate.
- What is the amount of Tier-1 capital of the bank?
 - ₹ 4,000 Crores.
 - ₹ 24,000 Crores.
 - ₹ 28,000 Crores.
 - Inadequate Information.

Answers:

1.	(c)	2.	(a)	3.	(b)	4.	(c)
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Explanations:

Question 1. Assets other than cash and other assets like Fixed Assets are rate sensitive. Hence ₹ 4,00,000 Crores - ₹27,600 Crores - ₹ 12,400 Crores = ₹ 3,60,000/- Crores.

Question 2. Liabilities other than capital, reserves and current accounts are rate sensitive ₹ 4,00,000 Crores - ₹4,000 Crores - ₹ 24,000 Crores - ₹ 1,20,000 Crores = ₹ 2,52,000 Crores.

Question 3. Interest-sensitive assets are more than interest-sensitive liabilities i.e., ₹ 3,60,000 Crore. Hence, there is a positive gap.

Question 4. Tier-1 capital comprises reserves and capital. Hence ₹ 4,000 Crores + ₹ 24,000 Crores = ₹ 28,000 Crores.

Exercise

A. Theoretical Questions

⊙ Multiple Choice Questions

1. The Bonds Issued Carries and Interest Rate Known As-----.
 - (a) Coupon Rate.
 - (b) Interest Rate.
 - (c) Cost of Capital.
 - (d) All of the Above.
2. Bonds Are-----.
 - (a) Fixed Income Securities.
 - (b) Permanent Income Securities.
 - (c) Fluctuating Income Securities.
 - (d) Matured Income Securities
3. Bond Are Debts Hence
 - (a) Bondholder Does Not Share Profits
 - (b) He Gets Interest Only
 - (c) The Amount Is Repaid on Maturity
 - (d) All of the above
4. A Newly Issued Bond Normally Sells At
 - (a) Par
 - (b) Premium
 - (c) Discount
 - (d) All of the above
5. Par Value of The Bond Is Not the Price of The Bond As
 - (a) It Fluctuates
 - (b) It Is Traded in The Market
 - (c) Other Factors Are Responsible
 - (d) All of the Above
6. Zero Coupon Bond Makes
 - (a) No Coupon Payment
 - (b) Interest Payment Every Month
 - (c) Is Not Traded
 - (d) Has No Maturity Date

7. Euro Bonds Are Bonds
 - (a) Attractive To Investors
 - (b) Have High Liquidity
 - (c) Offer In Some Other Countries Currency
 - (d) All of the above
8. Investing In Debt
 - (a) Is Safer Than Equity
 - (b) Is Risky Than Equity
 - (c) Is A Total Waste
 - (d) Is Equal to Equity
9. The Segment of Debt Market in India Is
 - (a) Government Securities
 - (b) Public Sector Units
 - (c) Corporate Securities
 - (d) All of the above
10. Following Are the Types of Yield Curves
 - (a) Normal
 - (b) Inverted
 - (c) Flat
 - (d) All of the above
11. YTM Stands For
 - (a) Yield To Maturity
 - (b) Yield To Money
 - (c) Yield To Market
 - (d) Yield To Motive
12. Realised Yield Means
 - (a) Received By Investor
 - (b) Paid By Issuer
 - (c) Actual Yield Realised Over a Given Holding Period
 - (d) All of the above
13. Yields In the Money Market Are On
 - (a) Bank Discount Basis
 - (b) Holding Period Yield

- (c) Effective Annual Yield
 - (d) All of the Above
14. Normal Yield Curve Is
- (a) Upward Sloping
 - (b) Downward Sloping
 - (c) Straight Line
 - (d) All of the above
15. Yield Curve Plots The
- (a) Interest Rates
 - (b) Investment Amount
 - (c) Market Rates
 - (d) Risk-Free Rates
16. Inverted Yield Curve Is
- (a) Upward Sloping
 - (b) Straight Line
 - (c) Downward Sloping
 - (d) All of the above
17. Bond Prices Are Sensitive to Many Factors
- (a) Interest Rate
 - (b) Credit Rating
 - (c) Prepayment Risk
 - (d) All of the above
18. Interest Rate Risk Is Measured By
- (a) Duration
 - (b) Convexity
 - (c) Gap Analysis
 - (d) All of the above
19. Swaptions Are
- (a) Options On Swaps
 - (b) Options And Futures
 - (c) Options On Forwards
 - (d) Options On MIBOR

20. A Cap Also Called Ceiling
- (a) Is A Call Option on Interest Rate?
 - (b) A Put Option on Interest Rate
 - (c) A Short Option on Interest Rate
 - (d) All of the above
21. Reinvestment Risk Exists
- (a) For A Bond with Call Option
 - (b) For A Bond with Coupon Rate
 - (c) For A Bond with A Put Option
 - (d) For A Bond with Hold Option
22. Decline In Credit Rating
- (a) Price Of Bond Will Fall
 - (b) Price Of Bond Will Rise
 - (c) Price Of Bond Will Be Stable
 - (d) All of the above
23. Price Sensitivities Are
- (a) Higher For Longer Tenor Bonds
 - (b) Lower For Longer Tenor Bonds
 - (c) Same For All Tenor Bonds
 - (d) Higher For Shorter Tenor Bonds
24. Current Yield
- (a) Does Not Consider Time Value of Money
 - (b) Measure The Yield on A Bond
 - (c) Is Very Simplistic
 - (d) All of the above
25. Exchange Traded Currency Future Is
- (a) Derivative Contract
 - (b) Future Contract
 - (c) Option Contract
 - (d) All of the above
26. Currency Futures Are Permitted In
- (a) Dollar- Rupee
 - (b) Euro- Rupee

- (c) Yen- Rupee
 - (d) All of the above
27. A Safe Haven for Investors Money Is
- (a) Debt Market
 - (b) Equity Market
 - (c) Speculative Market
 - (d) All of the above
28. Interest Rate Risk Is a Type Of
- (a) Credit Risk
 - (b) Market Risk
 - (c) Operational Risk
 - (d) All of the above
29. Credit Rating Agencies Determine Interest Rates
- (a) False
 - (b) True
 - (c) They Determine the Value of The Bond
 - (d) All of the above
30. A Fall in Interest Rates Will Make Prices of Government Securities
- (a) Go Down
 - (b) Go Up
 - (c) Remain Unchanged
 - (d) None of these
31. If The Yield on Long Tenure Government Securities False Then the Yield Curve
- (a) Will Become Cheaper
 - (b) Flatter
 - (c) Shift Downward
 - (d) Be A Straight Line
32. Yield Is of Various Type
- (a) Realised Yield
 - (b) Yield To Maturity
 - (c) Nominal Yield
 - (d) All of the above
33. This Risk Exists Only for Bond with Call Option
- (a) Reinvestment Risk
 - (b) Disinvestment Risk

- (c) Re Purchase Risk
 - (d) All of the above
34. IRF Stands For
- (a) Interest Rate Futures
 - (b) Interest Rate Forwards
 - (c) Interest Rate Fixed
 - (d) Interest Rate Fluctuating.
35. When interest rates fall, a bank that perfectly hedges its portfolio of Treasury securities in the futures market
- (a) suffers a loss.
 - (b) experiences a gain.
 - (c) has no change in its income.
 - (d) none of the above.
36. If you sold a short contract on financial futures, you hope interest rates
- (a) rise.
 - (b) fall.
 - (c) are stable.
 - (d) fluctuate.
37. If you sold a short futures contract, you will hope that interest rates
- (a) rise.
 - (b) fall.
 - (c) are stable.
 - (d) fluctuate.
38. If you bought a long contract on financial futures, you hope that interest rates
- (a) rise.
 - (b) fall.
 - (c) are stable.
 - (d) fluctuate.
39. To hedge the interest rate risk on \$4 million of Treasury bonds with \$100,000 futures contracts, you would need to purchase
- (a) 4 contracts.
 - (b) 20 contracts.
 - (c) 25 contracts.
 - (d) 40 contracts.

40. Assume you are holding Treasury securities and have sold futures to hedge against interest rate risk. If interest rates rise
- the increase in the value of the securities equals the decrease in the value of the futures contracts.
 - the decrease in the value of the securities equals the increase in the value of the futures contracts.
 - the increase in the value of the securities exceeds the decrease in the values of the futures contracts.
 - both the securities and the futures contracts increase in value.

Answer:

1.	(a)	9.	(d)	17.	(d)	25.	(a)	33.	(a)
2.	(a)	10.	(d)	18.	(d)	26.	(a)	34.	(a)
3.	(d)	11.	(a)	19.	(a)	27.	(a)	35.	(c)
4.	(d)	12.	(c)	20.	(a)	28.	(b)	36.	(a)
5.	(d)	13.	(d)	21.	(a)	29.	(a)	37.	(a)
6.	(a)	14.	(a)	22.	(a)	30.	(b)	38.	(b)
7.	(d)	15.	(a)	23.	(a)	31.	(b)	39.	(d)
8.	(a)	16.	(c)	24.	(d)	32.	(d)	40.	(b)

⊙ **Fill in the blanks:**

- Changes in interest rates also affect the underlying value of the bank's _____.
 - Assets.
 - Liabilities.
 - Assets, Liabilities.
 - None of the above.
- Rise in interest rates _____ the market value of that asset or liability. Conversely falling interest rates _____ the market value of assets or liabilities.
 - Increases, Decreases.
 - Decreases, Increases.
 - Both Ways.
 - None of the above
- The gap is the difference between the number of assets and liabilities on which the interest rates are _____ during a given period.
 - Fixed.
 - Not to be changed frequently.
 - Reset.
 - None of the above.

4. Mismatch occurs when assets and liabilities fall due for _____ in different periods.
 - (a) Pricing.
 - (b) Re-pricing.
 - (c) Not to be changed.
 - (d) None of the above.
5. The economic value of a bank can be viewed as the present value of the bank's expected _____.
 - (a) Cash Flows.
 - (b) Net Cash Flows.
 - (c) Gross Cash Flows.
 - (d) None of the above.
6. A negative or liability-sensitive gap occurs when liabilities _____ assets (including OBS positions) in a given time band.
 - (a) Equal.
 - (b) Lower.
 - (c) Exceed.
 - (d) None of the above.
7. Estimates derived from a standard duration generally focus on just one form of interest rate risk exposure, i.e., _____.
 - (a) Pricing.
 - (b) Repricing Risk.
 - (c) Not a Risk.
 - (d) None of the above.
8. Interest rate risk can be managed by matching re-priceable assets with _____.
 - (a) Re-priceable Liabilities.
 - (b) Re-priceable Assets.
 - (c) Both Assets and Liabilities.
 - (d) None of the above.
9. Proliferation of NPA results in increasing _____.
 - (a) It is not a maturity mismatch.
 - (b) Maturity mismatch.
 - (c) Sometimes it is a mismatch.
 - (d) None of the above.
10. The adverse impact on NII due to mismatches can be minimized by fixing appropriate _____ on interest rate sensitivity gaps.
 - (a) Limits.
 - (b) Tolerance Limits.

- (c) Abnormal Limits.
(d) None of the above.
11. In foreign financial markets, the growth is represented by the factors such as-----.
- (a) Savings in foreign countries.
(b) Investment Opportunities.
(c) Accessible Information.
(d) All of the above.
12. The risk arises when the technology system may got malfunction is classified as---.
- (a) System Risk.
(b) Technology Risk.
(c) Operational Risk.
(d) Support Risk.
13. The risk stating the assets are sold at low prices because of sudden surge in withdrawals of liabilities is classified as -----.
- (a) Payment Risk.
(b) Liquidity Risk.
(c) Income Risk.
(d) Balance Risk.
14. The bonds which are denominated in dollars and are issued in canters of London and Luxemburg are classified as -----.
- (a) London Bonds.
(b) Eurodollar Bonds.
(c) Central Bonds.
(d) Decentralize Bonds.
15. The risk which arises from insufficient Capital available to balance the sudden decrease in assets value is classified as -----.
- (a) Insolvency Risk.
(b) Solvency Risk.
(c) Balanced Risk.
(d) Unbalanced Risk.

Answers:

1.	(c)	2.	(b)	3.	(c)	4.	(b)	5.	(b)
6.	(c)	7.	(b)	8.	(a)	9.	(b)	10.	(b)
11.	(d)	12.	(c)	13.	(b)	14.	(b)	15.	(a)

Credit Risk and Liquidity Risk 3

This Module includes:

- 3.1 Credit Risk Management**
- 3.2 Management of Non-Performing Assets (NPAs)**
- 3.3 Liquidity Risk Management**

Credit Risk and Liquidity Risk

SLOB Mapped against the Module

To understand the role of regulations in bank risk management and ongoing enhancements brought about in contemporary Basel norms. (CMLO 2a, b)

Module Learning Objectives

Conceptually credit risk is easily understandable. We all know that credit risk arises from the lending activities of a bank. It arises when a borrower does not pay interest and/or instalments as and when it falls due or in the case where a loan is repayable on demand, the borrower fails to make the payment as and when demanded. Liquidity is a bank's capacity to fund increases in assets and meet both expected and unexpected cash and collateral obligations at a reasonable cost and without incurring unacceptable losses. Liquidity risk is the inability of a bank to meet such obligations as they become due, without adversely affecting the bank's financial condition.

This chapter will be helpful in understanding:

- ⦿ Credit Risk Management Framework.
- ⦿ Credit Rating.
- ⦿ Management of Portfolio Risk.
- ⦿ Classification of Liquidity Risks.
- ⦿ Management of Liquidity Risks.

Conceptually credit risk is easily understandable. Credit risk arises from lending activities of a bank. It arises when a borrower does not pay interest and / or instalments as and when it falls due or in case where a loan is repayable on demand, the borrower fails to make the payment as and when demanded. Banks follow up for the payments and more often than not end up in receiving less than the amount that is due. The shortfall in payment is written off eventually to the debit of profit and loss account. This is the risk that arises from lending activities.

Credit Risk in banks not only arises in course of direct lending when funds are not repaid, it also arises in the course of issuing guarantees or letters of credit when funds will not be forthcoming upon crystallisation of the liability, or in the course of transactions involving treasury products when series of payments due from the counterparty cease or are not forthcoming, or in case of trading of securities, if settlement is not effected or in case of cross-border exposure where free transfer of currency is restricted or ceases.

Since, lending activities are usually spread across all the branches and controlling offices of banks, and lending activities typically command more than half of all risk-taking activities of a bank, management of credit risk is very critical requirement of banks. In addition, communication of credit risk management policy of the bank across the entire organisation assumes importance as this risk-taking activity is exercised across a large cross-section of branches and a planned approach is required to build a portfolio with desired characteristics.

Credit risk arises from potential changes in the credit quality of a borrower. It has two components:

1. Default Risk and
2. Credit Spread Risk.

Default Risk:

Default risk is driven by the potential failure of a borrower to make promised payments, either partly or wholly. In the event of default, a fraction of the obligations will normally be paid. This is known as recovery the rate.

Credit Spread Risk or Downgrade Risk:

If a borrower does not default, there is still risk due to worsening in credit quality. This results in the possible widening of the credit-spread. This is credit-spread risk. Usually this is reflected through rating downgrade. It is normally firm-specific.

Default risk and downgrade risk are transaction level risks. Risks associated with the credit portfolio as a whole are termed portfolio risks. Portfolio risk has two components

- Systematic or Intrinsic Risk.
- Risk Concentration Risk.

Systematic or Intrinsic Risk:

Portfolio risk is reduced due to diversification. If a portfolio is fully diversified, i.e., diversified across geographies, industries, borrowers, markets, etc., equitably, then the portfolio risk is reduced to a minimum level. This minimum level corresponds to the risks in the economy which it is operating. This is systematic or intrinsic risk.

Concentration Risk:

If the portfolio is not diversified that is to say that it has higher weight in respect of a borrower or geography or industry, etc., the portfolio gets concentration risk.

A portfolio is open to the systematic risk i.e., the risks associated with the economy. If economy as a whole does not perform well, the portfolio performance will be affected. That is why when an economy stagnates or faces negative or reduced growth, credit portfolio of banking industry as a whole shows indifferent performance. Credit portfolio having concentration in any segment would be affected if the segment does not perform well.

Measuring and managing credit risk, whether for loans, bonds or derivative securities, has become a key issue for financial institutions. The risk analysis can be performed either for stand-alone trades or for portfolios as a whole. Banks adopt the risk analysis in the following manner.

- Standalone analysis for corporate exposures.
- Portfolio analysis for Retail lending exposures.

Credit Risk Management

3.1

Lending involves a number of risks. In addition to the risks related to creditworthiness of the counterparty, the banks are also exposed to interest rate, forex and country risks.

Credit risk or default risk involves inability or unwillingness of a customer or counterparty to meet commitments in relation to lending, trading, hedging, settlement and other financial transactions. The Credit Risk is generally made up of transaction risk or default risk and portfolio risk. The portfolio risk in turn comprises intrinsic and concentration risk. The credit risk of a bank's portfolio depends on both external and internal factors. The external factors are the state of the economy, wide swings in commodity / equity prices, foreign exchange rates and interest rates, trade restrictions, economic sanctions, Government policies, etc. The internal factors are deficiencies in loan policies / administration, absence of prudential credit concentration limits, inadequately defined lending limits for Loan Officers / Credit Committees, deficiencies in appraisal of borrowers' financial position, excessive dependence on collaterals and inadequate risk pricing, absence of loan review mechanism and post sanction surveillance, etc.

Another variant of credit risk is counterparty risk. The counterparty risk arises from non-performance of the trading partners. The non-performance may arise from counterparty's refusal / inability to perform due to adverse price movements or from external constraints that were not anticipated by the principal. The counterparty risk is generally viewed as a transient financial risk associated with trading rather than standard credit risk.

The management of credit risk should receive the top management's attention and the process should encompass:

- (a) Measurement of risk through credit rating/scoring.
- (b) Quantifying the risk through estimating expected loan losses i.e., the amount of loan losses that bank would experience over a chosen time horizon (through tracking portfolio behaviour over 5 or more years) and unexpected loan losses i.e., the amount by which actual losses exceed the expected loss (through standard deviation of losses or the difference between expected loan losses and some selected target credit loss quantile).
- (c) Risk pricing on a scientific basis; and
- (d) Controlling the risk through effective Loan Review Mechanism and portfolio management.

The credit risk management process should be articulated in the bank's Loan Policy, duly approved by the Board. Each bank should constitute a high-level Credit Policy Committee, also called Credit Risk Management Committee or Credit Control Committee etc. to deal with issues relating to credit policy and procedures and to analyse, manage and control credit risk on a bank wide basis. The Committee should be headed by the Chairman/CEO / ED, and should comprise heads of Credit Department, Treasury, Credit Risk Management Department (CRMD) and the Chief Economist. The Committee should, inter alia, formulate clear policies on standards for presentation of credit proposals, financial covenants, rating standards and benchmarks, delegation of credit approving powers, prudential limits on large credit exposures, asset concentrations, standards for loan collateral, portfolio management, loan review mechanism, risk concentrations, risk monitoring and evaluation, pricing of loans, provisioning, regulatory /

legal compliance, etc. Concurrently, each bank should also set up Credit Risk Management Department (CRMD), independent of the Credit Administration Department. The CRMD should enforce and monitor compliance of the risk parameters and prudential limits set by the CPC. The CRMD should also lay down risk assessment systems, monitor quality of loan portfolio, identify problems and correct deficiencies, develop MIS and undertake loan review / audit. Large banks may consider separate set up for loan review/audit. The CRMD should also be made accountable for protecting the quality of the entire loan portfolio. The Department should undertake portfolio evaluations and conduct comprehensive studies on the environment to test the resilience of the loan portfolio.

3.1.1 Credit Risk Exposures, Types

Financial institutions used credit risk analysis models to determine the probability of default of a potential borrower. The models provide information on the level of a borrower's credit risk at any particular time. If the lender fails to detect the credit risk in advance, it exposes them to the risk of default and loss of funds. Lenders rely on the validation provided by credit risk analysis models to make key lending decisions on whether or not to extend credit to the borrower and the credit to be charged.

With the continuous evolution of technology, banks are continually researching and developing effective ways of modelling credit risk. A growing number of financial institutions are investing in new technologies and human resources to make it possible to create credit risk models using machine learning languages, such as Python and other analytics-friendly languages. It ensures that the models created produce data that are both accurate and scientific.

Credit risk arises when a corporate or individual borrower fails to meet their debt obligations. It is the probability that the lender will not receive the principal and interest payments of a debt required to service the debt extended to a borrower.

On the side of the lender, credit risk will disrupt its cash flows and also increase collection costs, since the lender may be forced to hire a debt collection agency to enforce the collection.

The loss may be partial or complete, where the lender incurs a loss of part of the loan or the entire loan extended to the borrower.

The interest rate charged on a loan serves as the lender's reward for accepting to bear credit risk. In an efficient market system, banks charge a high interest rate for high-risk loans as a way of compensating for the high risk of default. For example, a corporate borrower with a steady income and a good credit history can get credit at a lower interest rate than what high-risk borrowers would be charged.

Conversely, when transacting with a corporate borrower with a poor credit history, the lender can decide to charge a high interest rate for the loan or reject the loan application altogether. Lenders can use different methods to assess the level of credit risk of a potential borrower in order to mitigate losses and avoid delayed payments.

Types of Credit Risk:

The following are the main types of credit risks:

1. Credit default risk:

Credit default risk occurs when the borrower is unable to pay the loan obligation in full or when the borrower is already 90 days past the due date of the loan repayment. The credit default risk may affect all credit-sensitive financial transactions such as loans, bonds, securities, and derivatives.

The level of default risk can change due to a broader economic change. It can also be due because of a change in a borrower's economic situation, such as increased competition or recession, which can affect the company's ability to set aside principal and interest payments on the loan.

2. Concentration risk:

Concentration risk is the level of risk that arises from exposure to a single counterparty or sector, and it offers the potential to produce large amounts of losses that may threaten the lender's core operations. The risk results from the observation that more concentrated portfolios lack diversification, and therefore, the returns on the underlying assets are more correlated.

For example, a corporate borrower who relies on one major buyer for its main products has a high level of concentration risk and has the potential to incur a large amount of losses if the main buyer stops buying their products.

3. Country risk:

Country risk is the risk that occurs when a country freezes foreign currency payments obligations, resulting in a default on its obligations. The risk is associated with the country's political instability and macroeconomic performance, which may adversely affect the value of its assets or operating profits. The changes in the business environment will affect all companies operating within a particular country.

Factors Affecting Credit Risk Modelling:

In order to minimize the level of credit risk, lenders should forecast credit risk with greater accuracy. Listed below are some of the factors that lenders should consider when assessing the level of credit risk.

1. Probability of Default (POD):

The probability of default, sometimes abbreviated as POD, is the likelihood that a borrower will default on their loan obligations. For individual borrowers, POD is based on a combination of two factors, i.e., credit score and debt-to-income ratio.

The POD for corporate borrowers is obtained from credit rating agencies. If the lender determines that a potential borrower demonstrates a lower probability of default, the loan will come with a low interest rate and low or no down payment on the loan. The risk is partly managed by pledging collateral against the loan.

2. Loss Given Default (LGD):

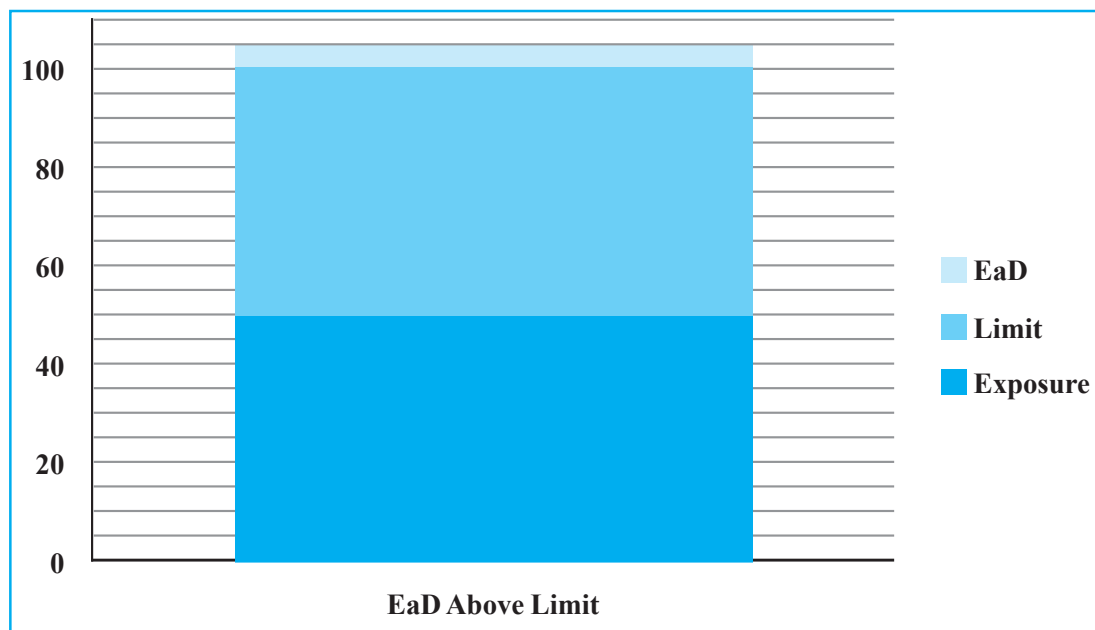
Loss given default (LGD) refers to the amount of loss that a lender will suffer in case a borrower defaults on the loan. For example, assume that two borrowers, A and B, with the same debt-to-income ratio and an identical credit score. Borrower A takes a loan of ₹.1,00,000 while B takes a loan of ₹.2,00,000.

The two borrowers present with different credit profiles, and the lender stands to suffer a greater loss when Borrower B defaults since the latter owes a larger amount. Although there is no standard practice of calculating LGD, lenders consider an entire portfolio of loans to determine the total exposure to loss.

3. Exposure at Default (EAD):

Exposure at Default (EAD) evaluates the amount of loss exposure that a lender is exposed to at any particular time, and it is an indicator of the risk appetite of the lender. EAD is an important concept that references both individual and corporate borrowers. It is calculated by multiplying each loan obligation by a specific percentage that is adjusted based on the particulars of the loan.

Exposure at Default (EAD) is the predicted amount of loss a bank may face in the event of, and at the time of, the borrower's default. The loss is dependent upon the amount to which the bank was exposed to the borrower at the time of default, as the default occurs at an unknown future date. It is obtained by adding the risk already drawn on the operation to a percentage of undrawn risk.



Banks often calculate an EAD value for each loan and then use the figures to determine their overall default risk. It is a dynamic number that changes as a borrower repays a lender.

How is EAD Calculated: While under the foundation internal ratings-based approach (F-IRB), calculation of EAD is guided by regulators, under the advanced approach (A-IRB), banks enjoy greater flexibility on how they calculate EAD.

F-IRB Approach: Under the foundation approach, Exposure at Default is calculated, taking account of the underlying asset, forward valuation, facility type, and commitment details. The value does not take account of collateral, guarantees, or security (ignores Credit Risk Mitigation Techniques with the exception of on-balance sheet netting where the effect of netting is included in EAD).

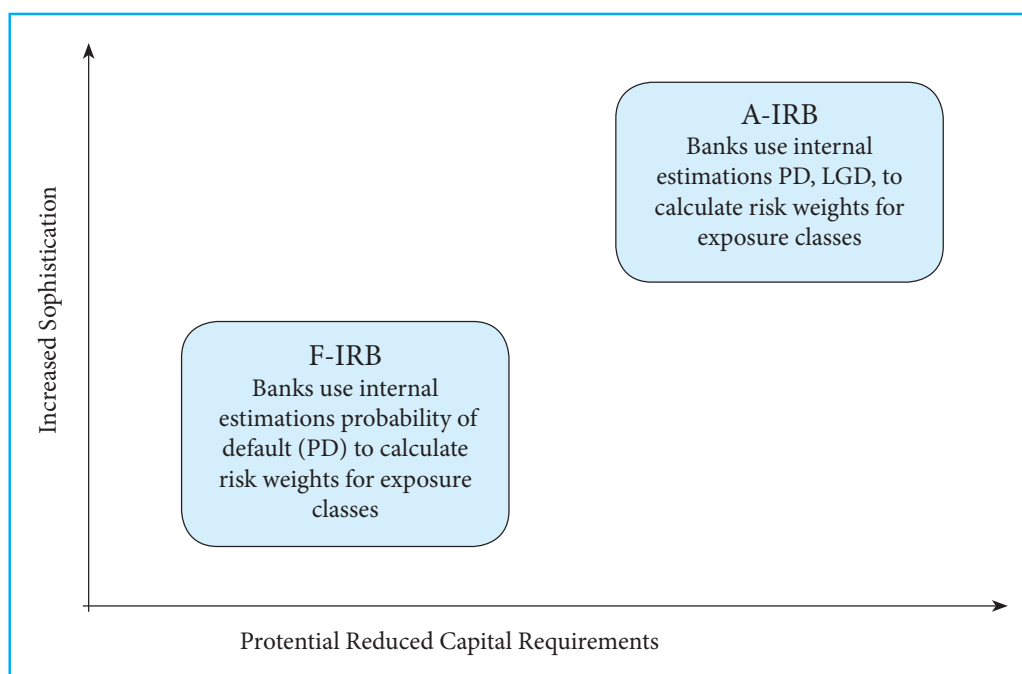
EAD is similar to the nominal amount of exposure for on-balance sheet transactions. Under certain conditions, the on-balance sheet netting of loans and deposits of a bank to a corporate counterparty is allowed to reduce the estimate of Exposure at Default.

For off-balance sheet items, there are two broad types that the foundation approach needs to address: transactions with uncertain future drawdown, such as commitments and revolving credits, and OTC foreign exchange, interest rate, and equity derivative contracts.

A-IRB Approach : Under the advanced approach, the bank itself determines how the appropriate EAD is to be applied to each exposure and streamlines its capital requirements by isolating the specific risk factors that are most serious and downplaying others. A bank using internal EAD estimates for capital purposes might be able to differentiate EAD values based on a wider set of transaction characteristics and borrower characteristics.

The values (as with PD and LGD estimates) would be expected to represent a conservative view of long-term averages, though banks would be free to use more conservative estimates.

A bank wanting to use its own estimates of EAD will need to demonstrate to its supervisor that it can meet additional minimum requirements pertaining to the reliability and integrity of the estimates. All estimates of EAD should be computed net of any specific provisions a bank might have raised against an exposure.



Banks can help reduce their capital charge by using an advanced IRB approach.

Probability at Default, Loss Given Default, and Exposure at Default.

PD (Probability of Default) analysis is a method generally used by larger institutions to calculate their expected loss. A PD is assigned to a specific risk measure and represents the likelihood of default as a percentage.. It is usually measured by assessing past-due loans and is calculated by running a migration analysis of similarly rated loans. The calculation pertains to a specific time horizon and measures the percentage of loans that default.

LGD (Loss Given Default), which is unique to the banking industry or segment, measures the expected loss. It represents the amount unrecovered by the lender after selling the underlying asset if a borrower defaults on a loan..

An accurate LGD variable may be difficult to determine if portfolio losses are different from what was expected, or if the segment is statistically small. Industry LGDs are available from third-party lenders.

PD and LGD values are generally valid throughout an economic cycle. However, lenders will re-evaluate with changes to the market or portfolio composition. Economic recovery,, recession,, and mergers may call for re-evaluation.

A bank may calculate its expected loss by taking the product of EAD, PD, and LGD.

$$\text{Expected Loss} = \text{EAD} \times \text{PD} \times \text{LGD}$$

Why is Exposure at Default Important? In response to the Global Financial Crisis of 2007- 2008, the banking sector adopted international regulations to lessen its exposure to default. EAD (Exposure at Default) and LGD (Loss Given Default) estimates are key inputs in the measurement of the expected and unexpected credit losses and, hence, credit risk capital (regulatory and economic).

The regulatory framework (Basel III) put forth by the Basel Committee on Bank Supervision (BCBS) following the

financial crisis aims to improve the banking sector's ability to deal with shocks arising from financial and economic stress. By improving risk management, disclosure standards, and bank transparency, the international accord hopes to avoid a domino effect of failing financial Institutions.

3.1.2 Credit Risk Measurement Models – Merton's Model

The Merton model is an analysis model used to assess the credit risk of a company's debt. Analysts and investors utilize the Merton model to understand how capable a company is at meeting financial obligations, servicing its debt, and weighing the general possibility that it will go into credit default.

In 1974, economist Robert C. Merton proposed this model for assessing the structural credit risk of a company by modelling the company's equity as a call option on its assets. This model was later extended by Fischer Black and Myron Scholes to develop the Nobel-prize winning Black-Scholes pricing model for options.

Loan Officers and stock analysts utilize the Merton model to analyse a corporation's risk of credit default. This model allows for easier valuation of the company and also helps analysts determine if the company will be able to retain solvency by analysing maturity dates and debt totals.

The Merton (or Black-Scholes) model calculates the theoretical pricing of European put and call options without considering dividends paid out during the life of the option. The model can, however, be adapted to consider these dividends by calculating the ex-dividend date value of underlying stocks.

The Merton Model makes the following basic assumptions:

- All options are European and are exercised only at the time of expiration.
- No dividends are paid out.
- Market movements are unpredictable (efficient markets).
- No commissions are included.
- Underlying stocks' volatility and risk-free rates are constant.
- Returns on underlying stocks are regularly distributed.

Variables that were taken into consideration in the formula include options strike prices, present underlying prices, risk-free interest rates, and the amount of time before expiration.

3.1.3 Credit Risk Measurement and Basel Norms

Measurement of credit risk consists of:

- Measurement of risk through credit rating/scoring;
- Quantifying the risk through estimating expected loan losses, i.e., the amount of loan losses that bank would experience over a chosen time horizon (through tracking portfolio behaviour over 5 or more years) and unexpected loan losses i.e., the amount by which actual losses exceed the expected loss (through standard deviation of losses or the difference between expected loan losses and some selected target credit loss quartile).

Credit Rating of an account is done with the primary objective to determine whether the account, after the expiry of a given period, would remain a performing asset, i.e., it will continue to meet its obligation to its creditors, including Bank and would not be in default. In other words, credit rating exercise seeks to predict whether the borrower would have the capability to honour its financial commitment in future to the rest of the world.

A Credit Rating depicts the credit quality of the borrower and depicts his default. **A credit rating process normally would consist of the following parameters:**

- Financial Parameter.
- Management Parameter.
- Industry Parameter.
- Business Parameter.

Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. The goal of credit risk management is to maximise a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organisation.

For most banks, loans are the largest and most obvious source of credit risk; however, other sources of credit risk exist throughout the activities of a bank, including in the banking book and in the trading book, and both on and off the balance sheet. Banks are increasingly facing credit risk (or counterparty risk) in various financial instruments other than loans, including acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, equities, options, and in the extension of commitments and guarantees, and the settlement of transactions.

Since exposure to credit risk continues to be the leading source of problems in banks world-wide, banks and their supervisors should be able to draw useful lessons from past experiences.

Banks should now have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred. The Basel Committee is issuing this document in order to encourage banking supervisors globally to promote sound practices for managing credit risk.

Principles for the Assessment of Banks' Management of Credit Risk

A. Establishing an appropriate credit risk environment:

Principle 1: The board of directors should have responsibility for approving and periodically (at least annually) reviewing the credit risk strategy and significant credit risk policies of the bank. The strategy should reflect the bank's tolerance for risk and the level of profitability the bank expects to achieve for incurring various credit risks.

Principle 2: Senior management should have responsibility for implementing the credit risk strategy approved by the board of directors and for developing policies and procedures for identifying, measuring, monitoring and controlling credit risk. Such policies and procedures should address credit risk in all of the bank's activities and at both the individual credit and portfolio levels.

Principle 3: Banks should identify and manage credit risk inherent in all products and activities. Banks should ensure that the risks of products and activities new to them are subject to adequate risk management procedures and controls before being introduced or undertaken, and approved in advance by the board of directors or its appropriate committee.

B. Operating under a sound credit granting process:

Principle 4: Banks must operate within sound, well-defined credit-granting criteria. These criteria should include a clear indication of the bank's target market and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment.

Principle 5: Banks should establish overall credit limits at the level of individual borrowers and counterparties, and groups of connected counterparties that aggregate in a comparable and meaningful manner different types of exposures, both in the banking and trading book and on and off the balance sheet.

Principle 6: Banks should have a clearly-established process in place for approving new credits as well as the amendment, renewal and re-financing of existing credits.

Principle 7: All extensions of credit must be made on an arm's-length basis. In particular, credits to related companies and individuals must be authorised on an exception basis, monitored with particular care and other appropriate steps taken to control or mitigate the risks of non-arm's length lending.

C. Maintaining an appropriate credit administration, measurement and monitoring process:

Principle 8: Banks should have in place a system for the ongoing administration of their various credit risk-bearing portfolios.

Principle 9: Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves.

Principle 10: Banks are encouraged to develop and utilise an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and complexity of a bank's activities.

Principle 11: Banks must have information systems and analytical techniques that enable management to measure the credit risk inherent in all on- and off-balance sheet activities. The management information system should provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risk.

Principle 12: Banks must have in place a system for monitoring the overall composition and quality of the credit portfolio.

Principle 13: Banks should take into consideration potential future changes in economic conditions when assessing individual credits and their credit portfolios, and should assess their credit risk exposures under stressful conditions.

D. Ensuring adequate controls over credit risk:

Principle 14: Banks must establish a system of independent, ongoing assessment of the bank's credit risk management processes and the results of such reviews should be communicated directly to the board of directors and senior management.

Principle 15: Banks must ensure that the credit-granting function is being properly managed and that credit exposures are within levels consistent with prudential standards and internal limits. Banks should establish and enforce internal controls and other practices to ensure that exceptions to policies, procedures and limits are reported in a timely manner to the appropriate level of management for action.

Principle 16: Banks must have a system in place for early remedial action on deteriorating credits, managing problem credits and similar workout situations.

E. The role of supervisors:

Principle 17: Supervisors should require that banks have an effective system in place to identify, measure, monitor and control credit risk as part of an overall approach to risk management. Supervisors should conduct an independent evaluation of a bank's strategies, policies, procedures and practices related to the granting of credit and the ongoing management of the portfolio. Supervisors should consider setting prudential limits to restrict bank exposures to single borrowers or groups of connected counterparties.

Credit risk measurement: Credit risk arises when a bank borrower or counter-party fails to meet his obligations according to specified schedule in terms of predetermined agreement either due to genuine problems or wilful default. Banks are using two broad methodologies for computing their capital requirements for credit risk as per Basel II guidelines.

First method is standardized approach and second method is Internal Rating Based approach.

Standardised approach (SA): The term standardized approach (or standardised approach) refers to a set of credit risk measurement techniques proposed under Basel II capital adequacy rules for banking institutions. Under the SA, the banks use a risk-weighting schedule for measuring the credit risk of its assets by assigning risk weights based on the rating assigned by the external credit rating agencies.

Internal rating-based approach (IRB): Under this approach, banks are allowed to use their own estimated internal risk parameters calculating counterparties and exposures for the purpose of regulatory capital. Under IRB Approach, the accord has made available two broad approaches viz. foundation approach and advanced approach.

Under foundation approach or Foundation IRB (F-IRB): As a general rule, banks provide their own estimates of PD (Probability of default) and rely on supervisory estimates for other risk components. However, foundation approach is not available for retail exposures. For retail exposures banks are required to use their own estimates of the IRB parameters (Probability of default (PD), Loss Given Default (LGD), Credit conversion factors (CCF) subject to approval of the banking regulator. Then total required capital is calculated as a fixed percentage of the estimated RWA.

Under the advanced approach or Advanced IRB (A-IRB): Banks provide for more of their own estimates of PD, LGD and EAD (exposure at default) and their own calculation of M, subject to meeting minimum standards approved by local regulator. Then total required capital is calculated as a fixed percentage of the estimated RWA. The IRB approach allows a finer differentiation of risk for various exposures and hence delivers capital requirements that are better aligned to the degree of risks.

Basel Committee on Banking Supervision (BCBS) is a committee of banking supervisory authorities that was established by the central bank governors of the G-10 countries in 1974 with a proposal of working toward building new international financial structures to minimize credit risk in the financial sector. Basel accord is the guidelines on regulatory standards formulated by the Basel Committee on banking supervision (BCBS). The accord popularly known as the 'Basel code on Capital Adequacy' is global capital measures and capital standards, which stipulate how much capital a bank should have in place about the risk it undertakes about various types of assets on the balance sheet as well as off-balance sheet business of the banks. Under the said system the balance sheet assets, non-funded items, and other off-balance sheet exposures are assigned prescribed risk weights and banks have to maintain unimpaired minimum capital funds equivalent to the prescribed ratio on the aggregate of the risk-weighted assets and other exposures, on an ongoing basis. The BCBS has so far introduced a capital measurement system commonly referred to as Basel I, Basel II, and Basel III, which seeks to improve the banking sector's ability to deal with financial stress, improve risk management, and strengthen the banks' transparency.

There are seven domestic and three international rating agencies in India which are accredited for risk-weighting the banks' claims for capital adequacy purposes. The long-term and short-term ratings issued by these credit rating

agencies have been mapped to the appropriate risk weights applicable as per the Standardized approach under Basel Framework. Under the Basel Accords, BCBS has fixed the minimum requirement of capital funds for banks at “8” percent of the total Risk-Weighted Assets.

The key difference between the Basel II and Basel III is that in comparison to the Basel II framework, the Basel III framework prescribes more common equity, creation of capital buffer, the introduction of Leverage Ratio, Introduction of Liquidity Coverage Ratio (LCR), and Net Stable Funding Ratio (NSFR).

Leverage Ratio: The leverage ratio is calculated by dividing Tier 1 capital by the bank’s average total consolidated assets (sum of the exposures of all assets and non-balance sheet items). The banks are expected to maintain a leverage ratio of over 3% under Basel III.

Liquidity Coverage Ratio: The liquidity coverage ratio (LCR) denotes highly liquid assets held by financial institutions to meet short-term obligations. The ratio is a generic stress test that aims to anticipate market-wide shocks. The LCR is a requirement under Basel III for a bank to hold high-quality liquid assets (HQLAs) sufficient to cover 100% of its stressed net cash requirements over 30 days. The LCR is calculated as $LCR = \text{HQLAs} / \text{Net cash outflows}$.

Net stable funding (NSF): The net stable funding is to ensure that banks maintain a stable funding profile regarding the composition of their assets and off-balance sheet activities.

Creation of capital buffer: The creation of an adequate capital buffer is a mechanism to build up additional capital during periods of excessive credit growth. The Basel Committee on Banking Supervision by promoting the creation of countercyclical buffers as outlined in the Basel III regulatory reforms to enable banks to absorb losses and continue lending in the subsequent downturn.

Counter-cyclical buffer is another support system for Capital Conservation Buffer recommended by BASLE- III based on a weighted average of capital conservation buffer built up in earlier years

(The risk-weighted asset (RWA) refers to the fund-based assets such as cash, loans, investments, and other assets but their value is assigned a risk weight and credit equivalent amount to all off-balance sheet activities. The higher the credit risk of an asset, the higher its risk weight. Basel III uses credit ratings of certain assets to establish their risk coefficients).

The Basel III framework also prescribes higher ratios in respect of minimum ratio of total capital to RWAs, Minimum Ratio of common equity to RWAs, Tier I capital to RWAs, and Core tier 1 Capital RWAs, Capital Conservation Buffers to RWAs, Countercyclical Buffer, etc. which are as under.

- (a) Minimum Ratio of total capital to RWAs 8% under Basel II increased to 10.50%
- (b) Minimum Ratio of common equity to RWAs 2% under Basel II increased to (4.50% to 7.00%) under Basel III
- (c) Tier I capital to RWAs 4% under Basel II to 6% under Basel III
- (d) Core tier 1 Capital RWAs 2% under Basel II to 5% under Basel III
- (e) Capital Conservation Buffers to RWAs none under Basel II increased to 2.50% under Basel III
- (f) Leverage ratio under Basel II from none to 3.00% under Basel III
- (g) Countercyclical Buffer from none under Basel II to (0% to 2.50%) under Basel III

The risk-weighted asset (RWA) refers to the fund-based assets such as cash, loans, investments, and other assets but their value is assigned a risk weight and credit equivalent amount to all off-balance sheet activities.

Furthermore, given Basel III norms, RBI has modified the following existing Basel II framework, which includes

the modifications and enhancements announced by BCBS in July 2009. RBI made amendments to, Basel II guidelines in respect of the definition of Capital, Risk Coverage, Capital Charge for Credit Risk, External Credit Assessments, Credit Risk Mitigation, and Capital Charge for Market Risk. The supervisory Review and Evaluation Process under Pillar 2, is also being modified.

The Basel III rule introduced several measures to strengthen the capital requirement of banks across the globe and presented more capital buffers to supplement the risk-based minimum capital requirements. This is to ensure that adequate funding is maintained in case there are other severe banking crises. The Reserve Bank of India introduced Basel III norms in India in 2003 and aims to bring in all commercial banks by March 2019. In India, lenders have to adhere to these regulations by March 2019.

Compared to the Basel II framework, the Basel III framework prescribes more common equity, creation of capital buffer, the introduction of Leverage Ratio, Introduction of Liquidity Coverage Ratio (LCR), and Net Stable Funding Ratio (NSFR).

The Basel III Rule introduced the following measures to strengthen the capital requirement and introduced more capital buffers. The capital norms recommend Capital Adequacy ratio (CAR) be increased to 8 percent internationally, while in India it is 9 percent. CAR is a ratio of a bank's capital to its risk. Out of the 9 percent of CAR, 7 percent has to be met by Tier 1 capital while the remaining 2 percent by Tier 2 capital. So, if the bank has risky assets worth ₹100, it needs to have Tier 1 capital worth ₹7/-. This capital can be easily used to raise funds in times of trouble.

Creation of capital buffer: In addition, banks also have to hold an additional buffer of 2.5 percent of risky assets known as the Capital Conservation Buffer which is designed to absorb losses during periods of financial and economic stress. The capital conservation buffer must be met exclusively with common equity. Financial institutions that do not maintain the capital conservation buffer face restrictions on pay-outs of dividends, share buybacks, and bonuses.

In addition to the above,

Countercyclical buffers: Counter cyclical buffer is another support system for Capital Conservation Buffer recommended by BASLE- III based on a weighted average of capital conservation buffer built up in earlier years. The Countercyclical Capital Buffer is within a range of 0% and 2.5% of common equity or other fully loss-absorbing capital which may be implemented according to national circumstances. This buffer serves as an extension of the capital conservation buffer.

Leverage ratio: The leverage ratio is calculated by dividing Tier 1 capital by the bank's average total consolidated assets; the banks were expected to maintain a leverage ratio over 3% under Basel III. The new leverage ratio is a non-risk-based measure to supplement the risk-based minimum capital requirements. This is to ensure that adequate funding is maintained in case there are other severe banking crises.

Liquidity Coverage Ratio: The liquidity coverage ratio (LCR) signifies highly liquid assets held by financial institutions to meet short-term obligations. The ratio is a generic stress test that aims to anticipate market-wide shocks. The LCR is a requirement under Basel III for a bank to hold high-quality liquid assets (HQLAs) sufficient to cover 100% of its stressed net cash requirements over 30 days. The LCR is calculated as $LCR = \text{HQLAs} / \text{Net cash outflows}$.

Net stable funding (NSF): The net stable funding is to ensure that banks maintain a stable funding profile regarding the composition of their assets and off-balance sheet activities.

The extant regulations about the regulatory capital of banks in India are different from internationally adopted Basel III capital standards. To bring the Banks' Balance Sheet Items closer to Alignment with Basel Framework, RBI has reviewed the position and made some amendments to the capital adequacy guidelines to determine banks' regulatory capital. The salient features of the amendments are herein below;

1. Treatment of Revaluation Reserves:

On a review of the existing capital adequacy guidelines, the Reserve Bank of India made some amendments to the treatment of certain balance sheet items to determine banks' regulatory capital. Accordingly, Revaluation reserves arising from a change in the carrying amount of a bank's property consequent upon its revaluation would be considered as common equity tier 1 capital (CET1) instead of Tier 2 capital as hitherto. These would continue to be reckoned at a discount of 55 percent. The above treatment is subject to the condition that the revaluation of property should be realistic by Indian Accounting Standard.

2. Treatment of foreign currency translation reserve (FCTR):

Foreign currency translation reserve arising due to the translation of financial statements of bank's foreign operations in terms of Accounting Standard (AS) 11 as CET1 capital which is reckoned at a discount of 25%. The Deferred tax assets arising due to timing differences may be recognized as CET1 capital up to 10% of a bank's CET1 capital. The above treatment is subject to the condition that the FCTR is shown as 'Reserves & Surplus' on the Balance Sheet of the bank under schedule 2;

3. Treatment of deferred tax assets (DTAs):

The DTAs are associated with accumulated losses and other such assets. Such losses should be deducted in full from CET1 capital. However, the DTAs other than accumulated losses due to the timing difference may be recognized in the CET1 capital up to 10% Bank's CET1 capital instead of the full deduction.

The treatment of items mentioned is subject to the conditions that the external auditors of the bank have not expressed any qualified opinion on them to determine the banks' regulatory capital. The review was carried out to further align the definition of regulatory capital with the internationally adopted Basel III capital standards, issued by the Basel Committee on Banking Supervision (BCBS).

The treatment of items mentioned is subject to the conditions that the external auditors of the bank have not expressed any qualified opinion on them.

3.1.4 Managing Credit Risk

As in the case of market risk management, credit risk management also involves finding answer to four key questions.

- (a) What are the risks?
- (b) Which, when and how much risk to accept that results in improving bottom-line?
- (c) How can we monitor and control credit risk?
- (d) Can we reduce the risk? And, if so, then how?

Management processes are designed essentially to answer these questions. Accordingly, credit risk management processes are sub-divided into following four parts.

1. Credit Risk Identification.
2. Credit Risk Measurement.
3. Credit Risk Monitoring and Control.
4. Credit Risk Mitigation.

Management of credit risk needs an organisation structure in place that can carry out the functions required for the purpose.

Risk taking through lending activities needs to be supported by a very effective control and monitoring mechanism, firstly because this activity is widespread, and secondly, because of very high share of credit risk in the total risk-taking activity of a bank. An elaborate and well-communicated policy at transaction level that articulates guidelines for risk taking, procedural guidelines and an effective monitoring system is necessary. This is also necessary to achieve the desired portfolio. Active portfolio management is required to keep up with the dynamics of the economy. It is also necessary to monitor it.

Consequently, credit risk control and monitoring is directed both at transaction level and portfolio level.

Appropriate credit information system is the basic prerequisite for effective control and monitoring. A comprehensive and detailed MIS (Management Information System) and CIS (Credit Information System) is the backbone for an effective CRM System. There is also a need to review the existing MIS available from HO and branches and the applicability of data for analysis purposes. A detailed MIS and CIS structure should be set up and enforced for future data requirements.

Credit risk mitigation is an essential part of credit risk management. This refers to the process through which credit risk is reduced or it is transferred to counterparty. Strategies for risk reduction at transaction level differ from that at portfolio level.

At transaction level banks use a number of techniques to mitigate the credit risks to which they are exposed. They are mostly traditional techniques and need no elaboration. They are, for example, exposures collateralised by first priority claims, either in whole or in part, with cash or securities, or an exposure guaranteed by a third party. Recent techniques include buying a credit derivative to offset credit risk at transaction level.

At portfolio level, asset securitisation, credit derivatives, etc., are used to mitigate risks in the portfolio. They are also used to achieve desired diversification in the portfolio as also to develop a portfolio with desired characteristics. It must be noted that while the use of CRM techniques reduces or transfers credit risk, it simultaneously may increase other risks such as legal, operational, liquidity and market risks. Therefore, it is imperative that banks employ robust procedures and processes to control these risks as well. In fact, the advantages of risk mitigation must be weighed against the risks acquired and its interaction with the bank's overall risk profile.

Management of Non-Performing Assets (NPAs)

3.2

The business of banking essentially involves intermediation-acceptance of deposits and channelling these deposits in to lending activities. Since the deposits received from the depositors have to be repaid to them by the bank, they are known as banks' 'Liabilities' and as the loan given to the borrowers are to be received back from them, they are termed as banks' 'Assets' so assets are banks' loans and advances.

In the traditional banking business of lending financed by deposits from customers, Commercial Banks are faced with the risk of default by the borrower in the payment of either principal or interest. This risk in banking parlance is termed as 'Credit Risk' and accounts where payment of interest and /or repayment of principal is not forthcoming are treated as Non-Performing Assets, as per the Reserve Bank of India, an asset, including a leased asset, becomes non-Performing when it ceases to generate income for the bank. Existence of Non-Performing Asset is an integral part of banking and every bank has some Non-Performing Assets in its advance portfolio. However, the high level of NPA is a cause of worry to any financial institution.

IMPLICATIONS OF NPAs:

For an Economy:

Developing of sound and healthy financial institutions, especially banks, is an essential condition for maintaining over all stability of the financial system of the country. The high level of NPAs in banks and financial institutions has been a matter of grave concern to the public as bank credit is the catalyst to the economic growth of the country and any bottleneck in the smooth flow of credit, one cause for which is the mounting NPAs, is bound to create adverse repercussions on the economy. When the loans taken are not repaid, much of the funds go out of financial system and the cycle of lending- repaying-borrowing is broken. The banks have also to repay their depositors and others from whom the money had been borrowed. If the borrowers do not pay, the banks have to borrow additional funds to repay the depositors and creditors. This leads to a situation where banks are reluctant to lend fresh funds to new projects or the on-going projects thus choking the system. Once the credit to various sectors of the economy slows down, the economy is badly hurt. There is slow down in GDP growth and industrial output and fall in the profit margins of the corporates which resultantly cause depression in the market.

For Banking:

The most important business implication of the NPAs is that it leads to credit risk management assuming priority over other aspects of bank's functioning. The bank's whole machinery would thus be pre-occupied with recovery procedures rather than concentrating on expanding business. A bank with a high level of NPAs would be forced to incur carrying costs on non-income yielding assets. Other consequences would be reduction in interest income, high level of provisioning (as banks are required to keep aside a portion of their operating profit as provisions, as NPAs increases banks have to increase the amount kept aside as provisions which will reduce their net profits) stress on profitability and capital adequacy, gradual decline in ability to meet steady increase in cost, increased pressure on Net Interest Margin (NIM) thereby reducing competitiveness, steady erosion of capital resources and

increased difficulty in augmenting capital resources. NPAs generate a vicious cycle of affects on the sustainability and growth of the banking system, and if not managed properly could lead to bank failure.

3.2.1 Definition, Concept and Categorisation of NPAs

In August 1991, a high-level committee, **headed by M. Narasimham was appointed to examine various aspects of financial system.** One of the important recommendations of the Narasimham Committee was that balance sheets of the banks should be transparent and comply with international accounting standards.

The Committee recommended that banks should adopt uniform accounting practices in regard to income recognition and bad debts provisioning. In particular, income recognition of non-performing assets should not be on accrual basis but on record of recovery. The Committee also suggested that provisioning should depend upon a proper classification of assets, which in turn should be based on objective criteria.

Non-performing Assets:

An asset, including a leased asset, becomes non-performing when it ceases to generate income for the bank. **A non-performing asset (NPA) is a loan or an advance where:**

Interest and / or instalment of principal remain overdue for a period of more than 90 days in respect of a term loan.

- The account remains 'out of order' in respect of an Overdraft/Cash Credit (OD/CC).
- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted.
- The Instalment of principal or interest thereon remains overdue for two crop seasons for short duration crops.
- The instalment of principal or interest thereon remains overdue for one crop season for long duration crops.
- The amount of liquidity facility remains outstanding for more than 90 days, in respect of a securitisation transaction undertaken in terms of guidelines on securitisation dated February 1, 2006.
- In respect of derivative transactions, if the overdue receivables representing positive mark-to market value of a derivative contract, remain unpaid for a period of 90 days from the specified due date for payment.

Banks should classify an account as NPA only if the interest charged during any quarter is not serviced fully within 90 days from the end of the quarter. The classification of an asset as NPA should be based on the record of recovery.

'Out of Order' Status: An account should be treated as 'out of order' if the outstanding balance remains continuously in excess of the sanctioned limit / drawing power. In cases where the outstanding balance in the principal operating account is less than the sanctioned limit/drawing power, but there are no credits continuously for 90 days as on the date of Balance Sheet or credits are not enough to cover the interest debited during the same period, these accounts should be treated as 'out of order'.

'Overdue': Any amount due to the bank under any credit facility is 'overdue' if it is not paid on the due date fixed by the bank.

Categories of NPAs:

Banks are required to classify non-performing assets further into the following **three categories, based on the period for which the asset has remained non-performing and the realisability of the dues:**

- Substandard Assets.
- Doubtful Assets.
- Loss Assets.

- (a) **Substandard Assets:** With effect from 31 March 2005, a substandard asset would be one, which has remained NPA period less than or equal to 12 months. In such cases, the current net worth of the borrower/guarantor.
- (b) **Doubtful Assets:** With effect from March 31, 2005, an asset would be classified as doubtful if it has remained in the substandard category for a period of 12 months. A loan classified as doubtful has all the weaknesses inherent in assets that were classified as substandard, with the added characteristic that the weaknesses make collection or liquidation in full on the basis of currently known facts, conditions and values highly questionable and improbable (doubtful).
- (c) **Loss Assets:** A loss asset is one where loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off wholly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted, although there may be some salvage or recovery value.

Provisioning Norms:

A non-performing asset (NPA) causes two-fold impact on the profitability of a bank. On one hand, the bank ceases to earn interest on this asset and thus is deprived of its legitimate income from the asset. On the other hand, the bank is required to make provisions for this asset, depending on the classification category of the asset and value of security, if any. This makes a further dent in the profitability of the bank. The Reserve Bank of India introduced the system of asset classification and provisioning in line with international practices for the first time in 1993. The norms have undergone several changes during the last 24 years.

Loss Assets:

Loss assets should be written off. If loss assets are permitted to remain in the books for any reason, 100% of the outstanding should be provided for.

Doubtful Assets:

100% of the extent to which the advance is not covered by the realisable value of the security to which the bank has a valid recourse and the realisable value is estimated on a realistic basis.

In regard to the secured portion, provision may be made on the following basis, at the rates ranging from 25% to 100% of the secured portion depending upon the period for which the asset has remained doubtful:

Period for which the advance has remained in 'doubtful' Category	Provision Requirement
Up to one year	25%
One to three years	40%
More than three years	100%

Substandard Assets:

A general provision of 15% on total outstanding should be made without making any allowance for ECGC guarantee cover and securities available. The 'unsecured exposures' which are identified as substandard would attract additional provision of 10%, i.e., a total of 25% on the outstanding balance. The provisioning requirement for unsecured doubtful assets is 100%.

Standard Assets:

Banks are required to make general provision for standard assets at the following rates for the funded outstanding on global loan portfolio basis:

- Farm Credit to agricultural activities and Small and Micro Enterprises (SMEs) sectors at 0.25 per cent.

- Advances to Commercial Real Estate (CRE) Sector at 1.00 per cent.
- Advances to Commercial Real Estate-Residential Housing Sector (CRE – RH) at 0.75 per cent.
- Housing loans extended at teaser rates at 2 per cent in view of the higher risk associated with them. The provisioning rate shall be reduced to 0.40 per cent after 1 year date on which the rates are reset at higher rates if the accounts remain 'Standard'.
- All other loans and advances not included in above at 0.40 per cent.

Calculation of Provisions:

International Banks provided following information about its-NPA account as on Mar 31, 2022.

Total loans ₹ 40,000 Crores.

Standard Accounts ₹ 38,000 Crores including Direct Agriculture and SME loans of ₹10,000 Crores.

Sub-standard ₹ 800 Crores and out of which unsecured Sub-standard ₹ 200 Crores..

Doubtful up to 1 Year ₹ 800 Crores and Doubtful above 1 year up to 3 years ₹ 200 Crores and Doubtful above 3 Years ₹ 120 Crores and Loss Accounts ₹ 80 Crores.

All doubtful loans are fully secured.

Based on the above information answer the following Questions:

1. What is the provision on standard accounts?
 - (a) ₹ 25 Crores
 - (b) ₹ 112 Crores
 - (c) ₹ 137 Crores
 - (d) ₹ 151 Crores
2. What is the amount of provision on sub-standard loan accounts?
 - (a) ₹ 120 Crores
 - (b) ₹ 140 Crores
 - (c) ₹ 160 Crores
 - (d) ₹ 240 Crores
3. What is the amount of provision on doubtful loan accounts?
 - (a) ₹ 400 Crores
 - (b) ₹ 340 Crores
 - (c) ₹ 320 Crores
 - (d) ₹ 260 Crores
4. What is the total provision on NPA loan?
 - (a) ₹ 420 Crores
 - (b) ₹ 560 Crores
 - (c) ₹ 580 Crores
 - (d) ₹ 620 Crores

5. What is the total provision on standard and NPA loans?
 - (a) ₹ 813 Crores
 - (b) ₹ 757 Crores
 - (c) ₹ 689 Crores
 - (d) ₹ 716 Crores
6. What is the provision coverage ratio of the bank?
 - (a) 78.5%
 - (b) 30.8%
 - (c) 31.0%
 - (d) 34.1%
7. If the security value in secured sub-standard accounts is ₹ 500 Crores what will be the provision on sub-standard accounts:
 - (a) ₹ 90 Crores
 - (b) ₹ 85 Crores
 - (c) ₹ 80 Crores
 - (d) ₹ 75 Crores
8. If security value in Doubtful Category-1 accounts is 600 Crores what will be amount of provision for Doubtful Category-1 accounts:
 - (a) ₹ 800 Crores
 - (b) ₹ 600 Crores
 - (c) ₹ 350 Crores
 - (d) ₹ 190 Crores
9. If security value is 3 150 Crores in Doubtful Category-2 accounts, the provision shall be:
 - (a) ₹ 110 Crores
 - (b) ₹ 95 Crores
 - (c) ₹ 80 Crores
 - (d) ₹ 375 Crores
10. What is the percentage of gross NPA?
 - (a) 8%
 - (b) 6%
 - (c) 5%
 - (d) 4%
11. What is the amount of Net NPA?
 1. ₹ 2000 Crores
 2. ₹ 1380 Crores
 3. ₹ 1170 Crores
 4. ₹ 1080 Crores

12. What is the percentage of Net NPA?

- (a) 3.29%
- (b) 3.41%
- (c) 3.50%
- (d) 4.01%

Question-1 : Provision on General accounts = ₹ 28000 × 0.4% = ₹ 112 Crores + Provision on direct agriculture and SME accounts = ₹ 10000 × 0.25% = 25 Crores.

Total provision = ₹ 112 + ₹ 25 = ₹ 137 Crores.

Question-2 : Secured Sub-standard accounts = ₹ 600 × 15% = ₹ 90 Crores + Unsecured Sub standard ₹ 200 × 25% = ₹ 50 Crores.

Total Provision = ₹ 140 Crores

Question-3 : Doubtful Category-1 = ₹ 800 × 25% = ₹ 200 Crores + Doubtful Category -2 = ₹ 200 × 40% = ₹ 80 Crores + Doubtful Category -3 = ₹ 120 × 100 = ₹ 120 Crores

Total provision = ₹ 200 + 80 + ₹ 120 = 400 Crores

Question-4 : Sub-standard = ₹ 140 + (Doubtful Category = ₹ 400) + (Loss accounts = ₹ 80 Crores)

Total = ₹ 140 + ₹ 400 + ₹ 80 = ₹ 620 Crores.

Question-5 : Standard accounts = ₹ 37 Crores + NPA loans ₹ 620: Total provision = ₹ 757 Crores.

Question-6 : ₹ 620 / ₹ 2,000 × 100 = 31%

Question-7 : In secured sub-standard accounts, secured and unsecured balance is not to be differentiated for provisioning purpose. Hence the provision shall be ₹ 600 × 15% = ₹ 90 Crores.

Question-8 : Provision on secured portion 25% and on unsecured portion 100%. Hence provision shall be as under:

Secured Accounts = ₹ 600 × 25% = ₹ 150 Crores. Unsecured ₹ 200 × 100% = ₹ 200. Total Provision = ₹ 150 + ₹ 200 = ₹ 350 Crores.

Question-9 : Secured = 40% and Unsecured = 100%

Secured Account = ₹ 150 Crores × 40 = ₹ 60 Crores

Unsecured = ₹ 50 Crores × 100 = 50 Crores,

Total = ₹ 60 + ₹ 50 = ₹ 110 Crores.

Question-10 : ₹ 2,000 Crores / ₹ 40,000 Crores = 5%.

Question-11 : Net NPAs = Gross NPAs - Provision = ₹ 2,000 - ₹ 620 Crores = ₹ 1,380 Crores.

Question-12 : Net Advances = ₹ 40,000 - ₹ 620 = ₹ 39,380. Net NPA = ₹ 1380 Crores

NPA % Age = ₹ 1,380 Crores / 39,380 Crores = 3.5%.

Note : Please verify the current Provisions and Classification of Advances Vide RBI Circular.

3.2.2 Choices available to Banks for Management of NPAs

The asset of the bank, classified as NPA ceases to generate income to the bank. In addition to stoppage of income generation to the banks, banks are required to make provision for NPA. Therefore, NPA is a double-edged razor; damaging the profit, weakening the capital structure and reducing the rating of the bank.

As long as loans and advances remain in bank books, the certain portion of loan accounts ought to remain as NPAs for various reasons. Though NPAs cannot be totally avoided, they can be reduced to the minimum level by continuously monitoring the account and adapting certain precautions at the time of new sanction, annual review/renewal/enhancements of limits. The rehabilitation of viable units, rephasing loan instalments wherever necessary, applying for settlement of the claim from CGTMSE/ECGC, Compromise settlements like One Time Settlement (OTS), Out of Court Settlement (OCS), writing off non-recoverable assets are parts of the process involved in reducing NPAs.

Pre-sanction and post sanction credit monitoring has a major role in reducing NPAs. Qualitative appraisal of financial statements understanding the unhealthy developments in accounts and working of the company, examination of the viability of the project before providing financial assistance to a borrowing unit are the essential aspects in reducing NPAs. Projected expansion plan is to be compared with growth in industrial production of peers. Identifying the early symptom of sickness like effective Scrutiny of periodical statements, discussions with the borrower, analysis of borrower's account with the bank, discussion with co-bankers, may be helpful in identifying the early symptom of the sickness of the unit. Stock-audit by external professionals like chartered accountants, at least once a year for large borrower accounts is also essential. Recalling the advance is vital when it appears that borrower is diverting the bank finance to some other purpose or diluting the security offered.

Other tools available to banks for reducing NPAs:

1. Recovery through Lok Adalat, DRT, SARFAESI proceedings, filing Civil suit for recovery of dues, are the other methods of reducing NPAs.
2. The introduction of Bankruptcy code (IBC) shall give greater relief to lenders in India as secured and unsecured creditors. The Code provides an order of priority while distributing assets/proceeds during liquidation. The assets will be distributed in the following order:
 - (i) secured creditors will receive their entire outstanding amount, rather than up to their collateral value.
 - (ii) unsecured creditors have priority over trade creditors, and
 - (iii) government dues will be repaid after unsecured creditors.

In terms of RBI circular dated February 12, 2018, the 'Resolution Plans' (RP) under IBC shall be implemented within the timeline given below in respect of large accounts where the exposures of lender at ₹.20 billion and above. If the account is in default as on the reference date (on or after March 1, 2018), then 180 days from the reference date or if the account is in default after the reference date, then 180 days from the date of first such default.

If a RP is not implemented as per the above timeline, lender requires filing of insolvency application under IBC, singly or jointly with other lenders within 15 days from the expiry of above-mentioned timeline.

The advantage of Compromise settlement:

- Recycling of funds.
- Saving of time/expenses involved in legal proceedings.
- Tax relief due to write off the unrealized portion of the outstanding.

Disadvantages:

- Loss of money towards the difference between loan outstanding and the amount actually received.
- Unapplied interest for the period up to which payment is likely to be received after compromise and also other notional waivers which otherwise must have added to outstanding.
- It sets a wrong procedure.

Gains of NPA recovery:

NPA recovery leads to multiple gains to the bank. Every Rupee recovered adds up cost-free resources to the bank. The recovered money can be recycled for further lending which enhances the current earning of the bank. The operating and net profit of the bank would improve. The capital structure of the bank would be strengthened. Recovery in NPA accounts improves the efficiency and profitability ratios of the bank and thereby improves Bank's rating.

3.2.3 Trading of NPAs

In order to increase the options available to banks for resolving their non-performing assets and to develop a healthy secondary market for non-performing assets, where securitisation companies and reconstruction companies are not involved, guidelines have been issued to banks on purchase / sale of Non-Performing Assets. Since the sale/purchase of non-performing financial assets under this option would be conducted within the financial system the whole process of resolving the non-performing assets and matters related thereto has to be initiated with due diligence and care warranting the existence of a set of clear guidelines which shall be complied with by all entities so that the process of resolving non-performing assets by sale and purchase of NPAs proceeds on smooth and sound lines. The guidelines may be placed before the bank's / FI's / NBFC's Board and appropriate steps may be taken for their implementation.

Against the backdrop of significant build-up of non-performing assets (NPAs) in the financial system, asset reconstruction companies (ARCs) are expected to play a critical role. The ARC framework is designed to allow originators to focus on their core function of lending, by removing sticky stressed financial assets from their books. ARCs act as the primary agent for recovery upon acquisition of such financial assets. The ARC framework is also designed to help borrowers revive their businesses, which protects the viable and productive assets of the economy and often ensures a better return to banks/ financial institutions (FIs), collectively referred to as 'lenders', from their stressed assets.

In terms of extant instructions of the Reserve Bank, the board of banks shall lay down detailed policies and guidelines on sale of their stressed assets to Securitisation Companies (SCs) / Reconstruction Companies (RCs). The policy, inter alia, shall cover the following aspects:

- (i) Financial assets to be sold.
- (ii) Norms and procedure for sale of such financial assets.
- (iii) Valuation procedure to be followed to ensure that the realisable value of financial assets is reasonably estimated.
- (iv) Delegation of powers of various functionaries for taking decision on the sale of the financial assets; etc.

In order to enhance transparency in the entire process of sale of stressed assets, it is decided by RBI as under:

- Identification of stressed assets beyond a specified value, as may be determined by bank's policy, for sale shall be top-down i.e., the head office / corporate office of the bank shall be actively involved in identification of stressed assets, including assets which are classified as Special Mention Account, to be put on sale. Early identification will help in low vintage and better price realisation for banks.

- At least once in a year, preferably at the beginning of the year, banks shall, with the approval of their Board, identify and list internally the specific financial assets identified for sale to other institutions, including SCs / RCs.
- At a minimum, all assets classified as 'doubtful asset' above a threshold amount should be reviewed by the board/board committee on periodic basis and a view, with documented rationale, is to be taken on exit or otherwise.
- Prospective buyers need not be restricted to SCs / RCs. Banks may also offer the assets to other Banks / NBFCs/ FIs, etc. who have the necessary capital and expertise in resolving stressed assets. Participation of more buyers will result in better price discovery.
- In order to attract a wide variety of buyers, the invitation for bids should preferably be publicly solicited so as to enable participation of as many prospective buyers as possible. In such cases, it would be desirable to use e-auction platforms. An open auction process, apart from attracting a larger set of borrowers, is expected to result in better price discovery. Banks should lay down a Board approved policy in this regard.
- Banks must provide adequate time for due diligence by prospective buyers which may vary as per the size of the assets, with a floor of two weeks.
- Banks should have clear policies with regard to valuation of assets proposed to be sold. In particular it must be clearly specified as to in which cases internal valuation would be accepted and where external valuation would be needed. However, in case of exposures beyond ₹.50 crore, banks shall obtain two external valuation reports.
- The cost of valuation exercise shall be borne by the bank, to ensure that the bank's interests are protected.
- The discount rate used by banks in the valuation exercise shall be spelt out in the policy. This may be either cost of equity or average cost of funds or opportunity cost or some other relevant rate, subject to a floor of the contracted interest rate and penalty, if any.

Banks shall review the efficacy of their extant policies on sale of NPAs, with focus on valuation of stressed assets, and rework their policies by appropriately adopting the above principles.

Investment by banks in security receipts backed by assets sold by them:

In order to make sure that sale of stressed assets by banks actually result in 'true sale' of assets and to create a vibrant stressed assets market, it has been decided to progressively restrict banks' investment in SRs backed by their own stressed assets.

- (i) With effect from April 1, 2017, where the investment by a bank in SRs backed by stressed assets sold by it, under an asset securitisation, is more than 50 percent of SRs backed by its sold assets and issued under that securitisation, the provisions held in respect of these SRs will be subject to a floor; this floor shall be progressive provisioning as per extant asset classification and provisioning norms, notionally treating book value of these SRs as the corresponding stressed loans, assuming these had remained, without recovery of principal, on the bank's books. In effect, provisioning requirement on SRs will be higher of the:
 - a) provisioning rate required in terms of net asset value declared by the SCs/RCs; and
 - b) provisioning rate as applicable to the underlying loans, assuming that the loans notionally continued in the books of the bank;
- (ii) With effect from April 1, 2018, the above threshold of 50 percent will stand reduced to 10 percent.

Disclosure of Investment in SRs:

In addition to the existing disclosure requirements, banks shall make following disclosures pertaining to their investments in security receipts:

Particulars		SRs issued within past 5 years	SRs issued more than 5 years ago but within past 8 years	SRs issued more than 8 years ago
(i)	Book value of SRs backed by NPAs sold by the bank as underlying			
	Provision held against (i)			
(ii)	Book value of SRs backed by NPAs sold by other banks / financial institutions/ non-banking financial companies as underlying			
	Provision held against (ii)			
Total (i) + (ii)				

Debt Aggregation – First right of refusal.

To enhance SC / RCs ability to aggregate debt faster, a bank offering stressed assets for sale shall offer the first right of refusal to a SC / RC which has already acquired the highest and at the same time a significant share (~25-30%) of the asset, for acquiring the asset by matching the highest bid. This requires the process of price discovery via auction, as described elsewhere, to be done first.

Swiss Challenge Method – Enabling Low Vintage and Debt aggregation.

In order to bring down the vintage of NPAs sold by banks as well as to enable faster debt aggregation by SC / RCs, banks shall put in place board approved policy on adoption of Swiss Challenge Method for sale of their stressed assets to SCs / RCs / other banks / NBFCs / FIs, etc. The board / committee of the board shall conduct periodic review (at least once in a year) of their stressed-asset portfolio, with a view to decide on the proposed course of action to resolve the portfolio in terms of their loan recovery policy. During such review, the bank should identify the assets which will be offered for sale among prospective buyers and an authenticated list of such assets shall be maintained by the bank. The list may, at the discretion of the bank, be disclosed to prospective bidder on entering into confidentiality agreement. The broad contours of the Swiss Challenge Method are as under:

- a. A prospective buyer interested in buying a specific stressed asset may offer a bid to the bank.
- b. If the asset features in the list of assets for sale maintained by the bank, and if the aforesaid bidder offers more than the minimum percentage specified in the bank's policy (say, 30 percent of outstanding loan) in the form of cash, the bank shall be required to publicly call for counter bids from other perspective buyers, on comparable terms.
- c. Once bids are received, the bank shall first invite the SC / RC, if any, which has already acquired highest significant stake to match the highest bid. The order of preference to sell the asset shall be as follows:
 - (i) The SC/RC which has already acquired highest significant stake.
 - (ii) The original bidder and
 - (iii) The highest bidder during the counter bidding process.
- d. Bank will have the following two options:
 - (i) Sell the asset to winning bidder.
 - (ii) If the bank decides not to sell the asset to winning bidder, bank will be required to make immediate provision on the account to the extent of the higher of:

- The discount on the book value quoted by the highest bidder; and
- The provisioning required as per extant asset classification and provisioning norms.

Buy-Back of Financial Assets:

The extant guidelines of Reserve Bank do not prohibit banks from taking over standard accounts from SCs/RCs. Accordingly, in cases where SCs/RCs have successfully implemented a restructuring plan for the stressed assets acquired by them, banks may, at their discretion, with appropriate due diligence, take over such assets after the 'specified period' provided that the account performed satisfactorily during the 'specified period'. Banks may frame a board approved policy containing various aspects governing such take over viz., type of assets that may be taken over, due diligence requirements, viability criteria, performance requirement of asset, etc. However, a bank cannot at any point of time take over from SCs/RCs the assets they have themselves earlier sold.

3.2.4 Status of NPAs in Banks in India

According to the Reserve Bank of India (RBI), the gross non-performing assets in Indian banks, specifically in public sector banks, are valued at around ₹.4,00,000 crore (~US\$61.5 billion), which represents 90% of the total NPA in India, with private sector banks accounting for the remainder.

Non-Performing Assets (NPA):

- Money or assets provided by banks to companies as loans sometimes remain unpaid by borrowers. This late or non-payment of loans is defined as Non-Performing Assets (NPA). They are also termed as bad assets.
- In India, the RBI monitors the entire banking system and, as defined by the country's central bank, if for a period of more than 90 days, the interest or instalment amount is overdue then that loan account can be termed a Non-Performing Asset.

The increase in non-performing assets in Indian banks follows the recognition standards being pursued by the banks after the RBI highlighted it in the Asset Quality Review (AQR). Of course, the main reason is inadequate progress in the financial health of the companies.

Reasons for the Rise in NPA levels:

- From 2000-2008, the Indian economy was in a boom phase and banks, especially public sector banks, started lending extensively to companies.
- However, with the financial crisis in 2008-09, corporate profits decreased and the Government banned mining projects. The situation became serious with the substantial delay in environmental permits, affecting the infrastructure sector-power, iron, and steel- resulting in volatility in prices of raw materials and a shortage of supply.
- Another reason is the relaxed lending norms adopted by banks, especially to the big corporate houses, foregoing analysis of their financials and credit ratings.

Recent Developments and Ways to Tackle NPA:

- **Insolvency and Bankruptcy Code (IBC):** With the RBI's push for the IBC, the resolution process is expected to quicken while continuing to exercise control over the quality of the assets. There will be changes in the provision requirement, with the requirement for the higher proportion of provisions going to make the books better.
- **Credit Risk Management:** This involves credit appraisal and monitoring accountability and credit by performing various analyses on profit and loss accounts. While conducting these analyses, banks should also do a sensitivity analysis and should build safeguards against external factors.

- **Tightening Credit Monitoring:** A proper and effective Management Information System (MIS) needs to be implemented to monitor warnings. The MIS should ideally detect issues and set off timely alerts to management so that necessary actions can be taken.
- **Amendments to Banking Law to give RBI more power:** The present scenario allows the RBI just to conduct an inspection of a lender but doesn't give them the power to set up an oversight committee. With the amendment to the law, the RBI will be able to monitor large accounts and create oversight committees.
- **More "Haircuts" for Banks:** For quite some time, PSU lenders have started putting aside a large portion of their profits for provisions and losses because of NPA. The situation is so serious that the RBI may ask them to create a bigger reserve and thus, report lower profits.
- **Stricter NPA recovery:** It is also discussed that the Government needs to amend the laws and give more power to banks to recover NPA rather than play the game of "wait-and-watch."
- **Corporate Governance Issues:** Banks, especially the public sector ones, need to come up with proper guidance and framework for appointments to senior-level positions.
- **Accountability:** Lower-level executives are often made accountable today; however, major decisions are made by senior-level executives. Hence, it becomes very important to make senior executives accountable if Indian banks are to tackle the problem of NPAs.

The banks should also consider "raising capital" to address the problem of NPA.

- **Using unclaimed deposits:** Similar to provisions for unclaimed dividends, the government may also create a provision and transfer unclaimed deposits to its account. These funds, in return, can be transferred to banks as capital.
- **Monetization of assets held by Banks:** In this case, banks with retail franchisees should create value by auctioning a bank assurance association rather than running it themselves as an insurance company. The current set-up blocks capital inflows and doesn't generate much wealth for the owners.
- **Make Cash Reserve Ratio (CRR) attractive:** At present, the RBI asks Indian banks to maintain a certain limit on CRR on which the RBI doesn't pay interest. Hence, banks lose out a lot on interest earnings. If the CRR is made more financially rewarding for banks, it can reduce capital requirements.
- **Refinancing from the Central Bank:** The US Federal Reserve spent \$700 billion to purchase stressed assets in 2008-09 under the "Troubled Asset Relief Program." Indian banks can adopt a similar arrangement by involving the RBI directly or through the creation of a Special Purpose Vehicle (SPV).
- **Structural change to involve private capital:** The compensation structure and accountability of banks creates a problem for the market. Banks should be governed by a board while aiming to reduce the government's stake and making the financial institutions attractive to private investors.

With the potential solutions above, the problem of NPAs in Indian banks can be effectively monitored and controlled, thus enabling the banks to achieve a clean balance sheet.

NPAs Ratios:

Banking and financial institutions in India have been showing signs of trouble, it is no surprise. Many of them have come crashing down, creating a crisis-like situation for customers and investors. The Yes Bank episode was the latest in the series. The bank's fall is yet another reminder for customers to know better, such as not putting all their life's savings in a single spot and keeping an eye out on the activities and performance of the institution unto which they entrust their hard-earned money.

Even though when a bank fails, the RBI steps in to the rescue of customers, customers themselves can track several warning signs that show that their bank is in trouble. Monitoring some basic operating metrics of a bank can give a fair idea of its health. Here are eight such metrics or ratios for check.

Gross Non-performing Assets (NPAs) : NPAs indicate how much of a bank's loans are in danger of not being repaid. If interest is not received for 3 months, a loan turns into NPA.

A very high gross NPA ratio means the bank's asset quality is in very poor shape.

Net NPAs : Banks provide for some loans going bad. The net NPA is that portion of bad loans which has not been provided for in the books.

Net NPA is a better indicator of the health of the bank.

Provision Coverage Ratio : Banks usually set aside a portion of their profits as a provision against bad loans.

A high PCR ratio (ideally above 70%) means most asset quality issues have been taken care of and the bank is not vulnerable.

Capital Adequacy Ratio : It is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities.

This is a measure of a bank's ability to meet its obligations. A high CAR means the bank can absorb losses without diluting capital.

CASA Ratio : It is the proportion of current account and savings account deposits in the total deposits of the bank.

A low CASA ratio means the bank relies heavily on costlier wholesale funding, which can hurt its margins

Credit Deposit Ratio : This shows how much a bank lends out of its deposits or how much of its core funds are used for lending.

A high credit-deposit ratio suggests an overstretched balance sheet, and may also hint at capital adequacy issues.

Net Interest Margin : This is the difference between interest earned by a bank on loans and the interest it pays on deposits.

NIM will be high for banks with higher low-cost deposits or high lending rates. Low NIM and high NPA is a bad combination.

Return on Assets : It shows how profitable a bank's assets are in generating revenue.

A lower RoA means that bank is not able to utilise assets efficiently. Negative RoA implies the bank's assets are yielding negative return.

To Sum Up:

Credit risk arises from lending activities of a bank. Credit risk arises from potential changes in the credit quality of a borrower. It has two components: default risk and credit spread risk. Default risk and downgrade risk are transaction level risks. Risks associated with credit portfolio as a whole is termed portfolio risk. Portfolio risk has two components-Concentration risk, and Systematic or Intrinsic risk. The counterparty risk arises from non-performance of the trading partners. 'Country Risk' is also a type of credit risk where non-performance by a borrower or counterparty arises because of restrictions imposed by a sovereign.

Since, lending activities are usually spread across all the branches and controlling offices of banks, and lending activities typically command more than half of all risk-taking activities of a bank, management of credit risk is very critical requirement of banks. Credit risk management processes are sub-divided into the following four parts:

- Credit Risk Identification.
- Credit Risk Measurement.
- Credit Risk Monitoring and Control.
- Credit Risk Mitigation.

Organisation for credit risk management is created with the objective of achieving compatibility in risk and business

policies, and to ensure their simultaneous implementation in a consistent manner.

Credit risk measurement is based on credit rating. Credit rating of an account is done with the primary objective to determine whether the account, after the expiry of a given period, would remain a performing asset, i.e., it will continue to meet its obligation to its creditors, including bank and would not be in default. Acceptability of a rating model is an issue with the regulatory authorities, rating agencies and other market watchdogs and is tested, based on two counts:

- Whether relevant factors (i.e., risk drivers) have been taken into account in the model covering standard rating factors in the areas of management, financials, past conduct, business-related issues, industry, etc.
- Whether rating migration developed, based on the model maps fairly well with market standards, i.e., rating migration pattern published by rating agencies.

Risk-taking through lending activities needs to be supported by a very effective control and monitoring mechanism, firstly because this activity is widespread, and secondly, because of very high share of credit risk in the total risk-taking activity of a bank. Active portfolio management is necessary to keep up with the dynamics of the economy.

Loan Review Mechanism is an effective tool for constantly evaluating the quality of loan book and to bring about qualitative improvements in credit administration. Loan Review Mechanism is used for large value accounts with responsibilities assigned in various areas such as, evaluating effectiveness of loan administration, maintaining the integrity of credit grading process, assessing portfolio quality, etc.

Credit risk mitigation is an essential part of credit risk management. This refers to the process through which credit risk is reduced or is transferred to counterparty. Strategies for risk reduction at transaction level differ from those used at the portfolio level.

At transaction level, banks use a number of techniques to mitigate the credit risks to which they are exposed. They are mostly traditional techniques and need no elaboration. They are, for example, exposures collateralised by first priority claims, either in whole or in part, with cash or securities, or an exposure guaranteed by a third party. Recent techniques include buying a credit derivative to offset the credit risk at the transaction level.

At portfolio level, asset securitisation, credit derivatives, etc., are used to mitigate risks in the portfolio. They are also used to achieve desired diversification in the portfolio as also to develop a portfolio with desired characteristic. It must be noted that while the use of CRM techniques reduces or transfers credit risk, it simultaneously may increase other risks such as legal, operational, liquidity and market risks. Therefore, it is imperative that banks employ robust procedures and processes to control these risks as well. In fact, advantages of risk mitigation must be weighed against the risks acquired and its interaction with the bank's overall risk profile.

Securitisation refers to a transaction where financial securities are issued against the cash flow generated from a pool of assets.

Generally, credit derivatives transfer risks in a credit asset without transferring the underlying asset themselves from the books of the originator. Hence, they are off-balance sheet financial instruments and offer considerable flexibility in terms of leverage.

3.2.5 Insolvency and Bankruptcy Code, 2016: *(Synoptic Analysis)*

On 28th May, 2016, the Code was published in the official gazette after its passage in Parliament. It has been hailed as a major economic measure, aimed at aligning insolvency laws with international standards. Parliament's previous attempts to ensure recovery of public debt, (through the Recovery of Debts due to Banks or Financial Institutions Act, 1993, hereafter "RDBFI Act") securitization (by the Securitization and Reconstruction and Enforcement of Security Interests Act, 2002 hereafter "SARFESI") deal with certain facets of corporate insolvency. These did not result in the desired consequences. The aim of the Code is to

- (a) Promote entrepreneurship and availability of credit;
- (b) Ensure the balanced interests of all stakeholders and
- (c) Promote time-bound resolution of insolvency in case of corporate persons, partnership firms and individuals.

The Insolvency & Bankruptcy Code 2016 (“IBC”), enacted to address the troubling shortcomings in existing staggered insolvency laws in India and to bring them under one umbrella, is set up to face a monumental challenge and equally monumental expectations. At present, according to the data available with the World Bank in 2016, insolvency resolution in India takes around 4.3 years on average, compared with United Kingdom (1 year), USA (1.5 years) and South Africa (2 years). India was ranked 135th/190 countries in the World Bank Ease of Doing Business Index 2015 on the ease of resolving insolvency. Thus, it is apparent that the Code is perhaps one of the most critical legislations introduced in the recent years impacting the ease of doing business in India.

The Insolvency and Bankruptcy Code 2016, enacted to radically change the process of insolvency resolution in India, is keenly watched by economists and jurists as well as businessmen and investors, for the reason that each aspect of the implementation of law has the potential to critically impact the ease of doing business in India. For this reason, the Code is especially sensitive to interpretation and it is vital that the issues thrown up in its inaugural year of implementation be recognized and the judicial remark on the same be understood. The present article thus traces the emerging jurisprudence of the Code through judgments of the Supreme Court of India and the National Company Law Appellate Tribunal.

It is a comprehensive Code enacted as the Preamble states, to

“consolidate and amend the laws relating to reorganisation and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner for maximisation of value of assets of such persons, to promote entrepreneurship, availability of credit and balance the interests of all the stakeholders including alteration in the order of priority of payment of Government dues and to establish an Insolvency and Bankruptcy Board of India, and for matters connected therewith or incidental thereto”.

Legal framework of Indian insolvency and bankruptcy resolution procedures:

There are several laws which regulate insolvency resolution for companies in India. These include

- (i) Sick Industrial Companies Act, 1985,
- (ii) Recovery of Debt Due to Banks and Financial Institutions Act, 1993 (DRT Act),
- (iii) Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI), and Companies Act, 2013.

These laws provide for the restructuring of debt, seizure and sale of the debtor’s assets for repayment of outstanding loans. Similar laws such as the Presidency Towns Insolvency Act, 1909 and the Provincial Insolvency Act, 1920 regulate insolvency resolution for individuals. While these laws specify processes for resolving insolvency, a creditor may also approach civil courts for recovery of debt.

The Code seeks to consolidate the existing framework by repealing the Presidency Towns Insolvency Act, 1909 and the Provincial Insolvency Act, 1920. In addition, it amends 11 laws including Companies Act, 2013, DRT Act, 1993 and SARFAESI Act, 2002.

Legal framework of Insolvency and Bankruptcy Code, 2016 (IBC):

The highlight of the Code is the institutional framework it envisions. This framework consists of the regulator (Insolvency and Bankruptcy Board of India) insolvency professionals, information utilities and adjudicatory mechanisms (NCLT and National Company Law Appellate Tribunal-NCLAT). These institutions and structures

are aimed at promoting corporate governance and also enable a time bound and formal resolution of insolvency. The major features of the Code include a two-step process -insolvency resolution for corporate debtors where the minimum amount of the default is Rs.1,00,00,000/-. Two processes are proposed by the Code: a) Insolvency resolution process (Sections 6 to 32 of the Code) – In this, the creditors play a crucial role in evaluating and ultimately determining whether the debtor's business can be continued and if so, what are the choices for its revival; and b) Liquidation [Sections 33-54 Code] – If revival fails or is not a feasible option, then creditors can resolve to wind up the company. Upon winding up, assets of the debtor are to be distributed.

To Sum up:

The insolvency resolution process under Section 6 can be initiated by the financial creditor [Section 7 of the Code] or operational creditor [subject to issuing a demand notice to the corporate debtor stating the amount involved in the default, under Section 8, of the Code] against the corporate debtor in the NCLT. Voluntary insolvency proceedings may also be initiated by the defaulting company, its employees or shareholders [Section 10 of the Code]. Once the resolution process begins, for the entire period, a moratorium is ordered by the NCLT on the debtor's. During this period, no judicial proceedings can be initiated. There can also be no enforcement of securities, sale or transfer of assets or termination of essential contracts against the debtor. The next step is appointment of an Interim Resolution Professional under Section 16 of the Code.

Section 13 (Declaration of moratorium and public announcement) provides that the Adjudicating Authority shall

- (a) Declare a moratorium for the purposes referred to under Section 14,
- (b) Cause a public announcement of the initiation of corporate insolvency resolution process and call for the submission of claims under section 15, and
- (c) Appoint an interim resolution professional in the manner as laid down in Section 16.

A public announcement is to be made immediately after the appointment of the interim resolution professional. Section 14 (Moratorium) provides that on the insolvency commencement date, the Adjudicating Authority shall declare a moratorium prohibiting

- (a) The institution or continuation of suits or proceedings against the corporate debtor including execution of a judgment, decree, order, etc;
- (b) Transferring, encumbering alienating or disposing of by the corporate debtor any of its assets or any legal right or beneficial interest;
- (c) Any action to foreclose, recover or enforce any security interest created by the corporate debtor in respect of its property including any action under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002; and
- (d) Recovery of any property by an owner or lessor where such property is occupied by, or in the possession of the corporate debtor. Section 16 provides for the appointment and tenure of an interim resolution professional.

The resolution professional has to work under the broad guidelines of the committee of creditors (or "CoC"- in terms of Section 21 of the Code). The CoC includes all the financial creditors of the corporate debtor, except all related parties and operational creditors. Further, Section 22 of the Code provides that the CoC has to appoint the resolution professional. This resolution professional can also be the interim resolution professional. A vote of 66% of the voting share shall determine the decisions of the committee to opt for either a revival or liquidation (Section 30). The decision of the CoC is binding not only on debtors, but also on all the other creditors. Different types of revival plans include fresh finance, sale of assets, haircuts (i.e., acceptance by creditors of amounts lower than what is due to them), change of management etc. The committee should approve the resolution plan forwarded by the creditor. Only upon approval does the resolution professional forward the plan to the adjudicating authority for

final approval. The resolution plan has to be approved by the NCLT; while doing so, it can consider objections to the resolution plan by any party interested in voicing such objections (i.e., operational creditors, financial creditors, etc).

To Sum Up:

The Statement of Objects and Reasons of Insolvency and Bankruptcy Code, 2016 (the Code) indicates that the Legislature was of the opinion that the existing framework for insolvency and bankruptcy was inadequate and ineffective and resulted in undue delays in resolution. The Code was proposed with the objective of consolidating and amending the laws relating to reorganization and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner for maximization of the value of assets of such persons, to promote entrepreneurship, availability of credit and balance the interests of all the stakeholders, including alteration in the priority of payment of Government dues and to establish an Insolvency and Bankruptcy Fund, and matters connected therewith or incidental thereto. The Code provides for designating the NCLT and the Debts Recovery Tribunal (DRT) as the Adjudicating Authorities for corporate persons, firms and individuals for resolution of insolvency, liquidation and bankruptcy. The Code was published in the Gazette of India dated 28.05.2016. Provisions of the Code were however brought into effect from different dates in terms of the proviso to Section 1(3) of the Code.

The Insolvency and Bankruptcy Code, 2016 (31 of 2016) (“the Code”) came into effect with the assent of the President of India on 28th May 2016. In a notification dated 1st June, 2016, the Central Government had constituted 11 benches of the National Company Law Tribunal (NCLT) in different states. Under Part II, Chapter VI of the Code, National Company Law Tribunal (NCLT) would be adjudicating authority for insolvency resolution and liquidation of Companies, Limited Liability Partnerships (LLPs), any entity with limited liability under any law and bankruptcy of personal guarantors thereof.

The Central Government established (powers conferred by sub-Section (1) and (3) of Section 188 of the Code) the Insolvency and Bankruptcy Board of India on 1st October, 2016 which has regulatory oversight over the Insolvency Professionals, Insolvency Professional Agencies and Information Utilities needed for operation of the Code. It also writes and enforces rules for transactions, namely, corporate insolvency resolution, corporate liquidation, individual insolvency resolution and individual bankruptcy under the Code.

The new code promises a better and painless procedure for restructuring or reorganisation of firm’s debt and also speed up the liquidation of a failing business and efficient recovery of creditor’s investment. IBC introduces the much awaited and much-needed creditor driven procedure for resolving insolvency and bankruptcy. While the introduction of new code is a historical reform in the country’s economy, its effect will be seen in years to come and will depend on the infrastructure support and capacity of the implementing authorities and newly formed protocols.

The new code will construct an institutional framework, consisting of:

1. IBBI (Insolvency & Bankruptcy Board of India) as the regulating authority,
2. Insolvency professionals (to act as intermediary and help sick units and financial institutions including banks with a smooth takeover or liquidation process),
3. Information utilities (credit information storing units), and
4. Adjudicatory mechanisms, to facilitate a timebound insolvency resolution procedure and liquidation if necessary.

The IBC appoints two different authorities to make the procedure for insolvency resolution smoother. The NCLT (National Company Law Tribunal) to deal with cases related to companies and LLP’s and the DRT (Debt Recovery Tribunal) for partnership firms and individual.

Liquidity Risk Management

3.3

Introduction

Liquidity is a bank's capacity to fund increase in assets and meet both expected and unexpected cash and collateral obligations at reasonable cost and without incurring unacceptable losses. Liquidity risk is the inability of a bank to meet such obligations as they become due, without adversely affecting the bank's financial condition. Effective liquidity risk management helps ensure a bank's ability to meet its obligations as they fall due and reduces the probability of an adverse situation developing. This assumes significance on account of the fact that liquidity crisis, even at a single institution, can have systemic implications.

To put it in plain vanilla terms, liquidity is having enough cash to meet the current needs and liquidity risk is the current and prospective risk to a bank's earnings and equity arising out its inability to meet the obligations when they become due. Thus, effective liquidity risk management is the management of liquidity by raising sufficient funds either by increasing liabilities or by converting assets promptly and at a reasonable cost. It has now become imperative for banks to have an adequate liquidity risk management process commensurate with its size, complexity and liquidity risk profile as one size does not fit all.

Liquidity problems arise on account of the mismatches in the timing of inflows and outflows. Per se, the liabilities being the sources of funds are inflows while the assets being application of funds are outflows. However, in the context of Liquidity Risk Management, we need to look at this issue from the point of maturing liabilities and maturing assets; a maturing liability is an outflow while a maturing asset is an inflow. The need for Liquidity Risk Management arises on account of the mismatches in maturing assets and maturing liabilities.

Mismatching, as we all know, is an inherent feature of banking. It's said and said very well too, that the crux of banking is managing mismatches. That is why Banks are presently called as 'Maturity Transformation Agents'. More the knowledge of the depositors, the tenor of the deposits would be come down/shrink whereas the tenor of the advances would be long. A simple housing loan has to be given for a period of 10 to 20 years. Hence, if banks were to have perfectly matched portfolios, they would neither make money nor need treasury managers to run their business. Anyone can manage banks.

3.3 Liquidity Risk Management

A bank is said to be solvent if it's net worth is not negative. To put it differently, a bank is solvent if the total realizable value of its assets is more than its outside liabilities (i.e., other than its equity/owned funds). As such, at any point in time, a bank could be

- (i) both solvent and liquid or
- (ii) liquid but not solvent or
- (iii) solvent but not liquid or
- (iv) neither solvent nor liquid.

The need to stay both solvent and liquid therefore, makes effective liquidity management crucial for increasing the profitability as also the long-term viability/solvency of a bank. This also highlights the importance of the need of having the best Liquidity Risk Management practices in place in Banks.

Some Key Considerations in Liquidity Risk Management include:

- Availability of liquid assets.
- Extent of volatility of the deposits.
- Degree of reliance on volatile sources of funding.
- Level of diversification of funding sources.
- Historical trend of stability of deposits.
- Quality of maturing assets.
- Market reputation.
- Availability of undrawn standbys.
- Impact of off-balance sheet exposures on the balance sheet, and
- Contingency plans.

Some of the issues that need to be kept in view while managing liquidity include:

- The extent of operational liquidity, reserve liquidity and contingency liquidity that are required.
- The impact of changes in the market or economic condition on the liquidity needs.
- The availability, accessibility and cost of liquidity.
- The existence of early warning systems to facilitate prompt action prior to surfacing of the problem and
- The efficacy of the processes in place to ensure successful execution of the solutions in times of need.

3.3.1 Liability-side and Asset-side Liquidity Risk

A bank should have a sound process for identifying, measuring, monitoring and mitigating liquidity risk as enumerated below:

Identification: A bank should define and identify the liquidity risk to which it is exposed for each major on and off-balance sheet position, including the effect of embedded options and other contingent exposures that may affect the bank's sources and uses of funds and for all currencies in which a bank is active.

Measurement of Liquidity Risk: There are two simple ways of measuring liquidity; one is the stock approach and the other, flow approach. The stock approach is the first step in evaluating liquidity. Under this method, certain ratios, like liquid assets to short term total liabilities, purchased funds to total assets, core deposits to total assets, loan to deposit ratio, etc., are calculated and compared to the benchmarks that a bank has set for itself. While the stock approach helps up in looking at liquidity from one angle, it does not reveal the intrinsic liquidity profile of a bank.

Volatile Liabilities: (Deposits + borrowings and bills payable up to 1 year). Letters of credit – full outstanding. Component-wise CCF of other contingent credit and commitments. Swap funds (buy/sell) up to one year. Current deposits (CA) and Savings deposits (SA) i.e. (CASA) deposits reported by the banks as payable within one year (as reported in structural liquidity statement) are included under volatile liabilities. Borrowings include from RBI, call, other institutions and refinance.

The Bank-wise Maturity Profile of Select Deposit Category of Banks in % Age terms of select maturity buckets,

as on Mar 31, 2022 is as under:

(Figures in % Age)

Liabilities	PSU Banks	Old Private Banks	New Private Banks	Foreign Banks
Deposits:	100	100	100	100
Up to 1 Year	33	54	52	44
Over 1 Year to 3 Years	37	33	44	44
Over 3 Years to 5 Years	13	6	3	4
Over 5 Years	17	7	1	8

On the basis of given information, answer the following questions:

- There is decline in rate of interest of 2% for a period up to 1 Year. The bank group which will gain most is:
 - PSU Banks
 - Old Private Banks**
 - New Private Banks
 - Foreign Banks
- There is decline in rate of interest of 2% for a period up to 1 Year. The bank group which will gain least is:
 - PSU Banks**
 - Old Private Banks
 - New Private Banks
 - Foreign Banks
- There is increase in rate of interest of 1% for deposit with a period above 1 year to 5 years.
The bank group which will be most affected adversely is:
 - PSU Banks**
 - Old Private Banks
 - New Private Banks
 - Foreign Banks
- There is increase in rate of interest of 1% for deposit with a period above 1 Year to 5 Years.
The bank group which will be list affected adversely is:
 - PSU Banks
 - Old Private Banks**
 - New Private Banks
 - Foreign Banks
- The bank group which is more relying on long term deposits above 3 Years:
 - PSU Banks**

- (b) Old Private Banks
- (c) New Private Banks
- (d) Foreign Banks

Explanations :

Question-1 : Old private banks are dependent up to 54% deposits in up to 1 year category. Hence, they gain most.

Question-2 : Public sector banks have the lowest amount of deposit in this category 33%. Hence, they gain least.

Question-3 : PSU banks have 50% of their deposit in this category, which is highest in all the 4 bank groups. Hence, they are affected most.

Question-4 : Old private banks have 39% of their deposits in this category which lowest. Hence, they are least affected.

Question-5: PSU banks are having 30% of their deposits in this category, which is highest

Temporary assets = Cash + Excess CRR balances with RBI + Balances with banks + Bills purchased/ discounted up to 1 year + Investments up to one year + Swap funds (sell/buy) up to one year.

Earning Assets = Total assets – (Fixed assets + Balances in current accounts with other banks + Other assets excluding leasing + Intangible assets).

Core deposits = All deposits (including CASA) above 1 year (as reported in structural liquidity statement) + net worth.

Liquidity Risk Tolerance: Banks should have an explicit liquidity risk tolerance set by the Board of Directors. The risk tolerance should define the level of liquidity risk that the bank is willing to assume, and should reflect the bank's financial condition and funding capacity. The tolerance should ensure that the bank manages its liquidity in normal times in such a way that it is able to withstand a prolonged period of, both institution specific and market wide stress events.

Strategy for Managing Liquidity Risk: The strategy for managing liquidity risk should be appropriate for the nature, scale and complexity of a bank's activities. In formulating the strategy, banks/banking groups should take into consideration its legal structures, key business lines, the breadth and diversity of markets, products, jurisdictions in which they operate and home and host country regulatory requirements, etc. Strategies should identify primary sources of funding for meeting daily operating cash outflows, as well as expected and unexpected cash flow fluctuations.

Certain critical ratios in respect of liquidity risk management and their significance for banks are given below. Banks may monitor these ratios by putting in place an internally defined limit approved by the Board for these ratios.

Sl. No.	Ratio	Significance	Industry Average (in %)
1.	(Volatile liabilities – Temporary Assets) / (Earning Assets – Temporary Assets)	Measures the extent to which volatile money supports bank's basic earning assets. Since the numerator represents short-term, interest sensitive funds, a high and positive number implies some risk of illiquidity.	40
2.	Core deposits/Total Assets	Measures the extent to which assets are funded through stable deposit base.	50

3.	(Loans + mandatory SLR + mandatory CRR + Fixed Assets)/Total Assets	Loans including mandatory cash reserves and statutory liquidity investments are least liquid and hence a high ratio signifies the degree of 'illiquidity embedded in the balance sheet.	80
4.	(Loans + mandatory SLR + mandatory CRR + Fixed Assets)/Core Deposits	Measure the extent to which illiquid assets are financed out of core deposits.	150
5.	Temporary Assets/Total Assets	Measures the extent of available liquid assets. A higher ratio could impinge on the asset utilisation of banking system in terms of opportunity cost of holding liquidity.	40
6.	Temporary Assets/Volatile Liabilities	Measures the cover of liquid investments relative to volatile liabilities. A ratio of less than 1 indicates the possibility of a liquidity problem.	60
7.	Volatile Liabilities/Total Assets	Measures the extent to which volatile liabilities fund the balance sheet.	60

3.3.2 Types of Liquidity Risk Events

The internal and external factors in banks that may potentially lead to liquidity risk problems in Banks are as under:

Internal Banking Factors	External Banking Factors
High off-balance sheet exposures.	Very sensitive financial markets depositors.
The banks rely heavily on the short-term corporate deposits.	External and internal economic shocks.
A negative gap (liability is more than the asset) in the maturity dates of assets and liabilities.	Low/slow economic performances.
The banks' rapid asset expansions exceed the available funds on the liability side.	Decreasing depositors' trust on the banking sector.
Concentration of deposits in the short-term Tenor.	Non-economic factors.
Less allocation in the liquid government instruments.	Sudden and massive liquidity withdrawals from depositors.
Fewer placements of funds in long-term deposits.	Unplanned termination of government deposits.

Banks face the following types of liquidity risk:

Funding Liquidity Risk: The risk that a bank will not be able to meet efficiently the expected and unexpected current and future cash flows and collateral needs without affecting either its daily operations or its financial condition.

Market liquidity Risk: The risk that a bank cannot easily offset or eliminate a position at the prevailing market price because of inadequate market depth or market disruption.

3.3.3 Liquidity Risk Vs. Credit Risk

The financial crisis has strongly illustrated the importance of credit risk and different types of liquidity risks and it has demonstrated how these concepts are closely linked in the financial system. The current crisis had its origin in defaults on mortgage securities, i.e., a classical problem in credit risk, but the speed by which the crisis spread to

the entire financial system can only be explained by the close interconnection between credit risk and liquidity risk.

Credit Risk and Liquidity Risk

(i) Credit Risk:

Credit risk is the possibility of a loss resulting from a borrower's failure to repay a loan or meet contractual obligations. Traditionally, it refers to the risk that a lender may not receive the owed principal and interest, which results in an interruption of Cash Flows and increased costs for collection. Excess Cash Flows may be written to provide additional cover for credit risk. When a lender faces heightened credit risk, it can be mitigated via a higher coupon rate, which provides for greater cash flows.

Although it's impossible to know exactly who will default on obligations, properly assessing and managing credit risk can lessen the severity of a loss. Interest payments from the borrower or issuer of a debt obligation are a lender's or investor's reward for assuming credit risk.

When lenders offer mortgages, credit cards, or other types of loans, there is a risk that the borrower may not repay the loan. Similarly, if a company offers credit to a customer, there is a risk that the customer may not pay their invoices. Credit risk also describes the risk that a bond issuer may fail to make payment when requested or that an insurance company will be unable to pay a claim.

Credit risks are calculated based on the borrower's overall ability to repay a loan according to its original terms. To assess credit risk on a consumer loan, lenders look at the Five Cs: credit history, capacity to repay, capital, the loan's conditions, and associated collateral.

Some companies have established departments solely responsible for assessing the credit risks of their current and potential customers. Technology has afforded businesses the ability to quickly analyze data used to assess a customer's risk profile.

If an investor considers buying a bond, they will often review the credit rating of the bond. If it has a low rating (< BBB), the issuer has a relatively high risk of default. Conversely, if it has a stronger rating (BBB, A, AA, or AAA), the risk of default is progressively diminished.

Bond credit-rating agencies, such as Moody's Investors Services and Fitch Ratings, evaluate the credit risks of thousands of corporate bond issuers and municipalities on an ongoing basis. For example, a risk-averse investor may opt to buy an AAA-rated municipal bond. In contrast, a risk-seeking investor may buy a bond with a lower rating in exchange for potentially higher returns.

Creditors may also choose to forgo the investment or loan.

For example, because a mortgage applicant with a superior credit rating and steady income is likely to be perceived as low credit risk, they will receive a low-interest rate on their mortgage. In contrast, if an applicant has a poor credit history, they may have to work with a subprime lender—a mortgage lender that offers loans with relatively high-interest rates to high-risk borrowers—to obtain financing. The best way for a high-risk borrower to acquire lower interest rates is to improve their credit score; those struggling to do so might want to consider working with one of the best credit repair companies.

Similarly, bond issuers with less-than-perfect ratings offer higher interest rates than bond issuers with perfect credit ratings. The issuers with lower credit ratings use high returns to entice investors to assume the risk associated with their offerings.

(ii) Liquidity Risk:

Liquidity refers to the efficiency or ease with which an asset or security can be converted into ready cash without affecting its market price. The most liquid asset of all is cash itself.

In other words, liquidity describes the degree to which an asset can be quickly bought or sold in the market at a price reflecting its intrinsic value. Cash is universally considered the most liquid asset because it can most quickly and easily be converted into other assets. Tangible assets, such as real estate, fine art, and collectibles, are all relatively illiquid. Other financial assets, ranging from equities to partnership units, fall at various places on the liquidity spectrum.

For example, if a person wants a \$1,000 refrigerator, cash is the asset that can most easily be used to obtain it. If that person has no cash but a rare book collection that has been appraised at \$1,000, they are unlikely to find someone willing to trade them the refrigerator for their collection. Instead, they will have to sell the collection and use the cash to purchase the refrigerator. That may be fine if the person can wait for months or years to make the purchase, but it could present a problem if the person only had a few days. They may have to sell the books at a discount, instead of waiting for a buyer who was willing to pay the full value. Rare books are an example of an illiquid asset.

There are two main measures of liquidity: market liquidity and accounting liquidity.

Market liquidity refers to the extent to which a market, such as a country's stock market or a city's real estate market, allows assets to be bought and sold at stable, transparent prices. In the example above, the market for refrigerators in exchange for rare books is so illiquid that, for all intents and purposes, it does not exist.

The stock market, on the other hand, is characterized by higher market liquidity. If an exchange has a high volume of trade that is not dominated by selling, the price a buyer offers per share (the bid price) and the price the seller is willing to accept (the ask price) will be fairly close to each other.

Investors, then, will not have to give up unrealized gains for a quick sale. When the spread between the bid and ask prices tightens, the market is more liquid, when it grows the market instead becomes more illiquid. Markets for real estate are usually far less liquid than stock markets. The liquidity of markets for other assets, such as derivatives, contracts, currencies, or commodities, often depends on their size, and how many open exchanges exist for them to be traded.

Accounting liquidity measures the ease with which an individual or company can meet their financial obligations with the liquid assets available to them—the ability to pay off debts as they come due.

In the example above, the rare book collector's assets are relatively illiquid and would probably not be worth their full value of \$1,000 in a pinch. In investment terms, assessing accounting liquidity means comparing liquid assets to current liabilities, or financial obligations that come due within one year.

There are a number of ratios that measure accounting liquidity, which differ in how strictly they define "liquid assets." Analysts and investors use these to identify companies with strong liquidity. It is also considered a measure of depth.

Financial analysts look at a firm's ability to use liquid assets to cover its short-term obligations. Generally, when using these formulas, a ratio greater than one is desirable.

Current Ratio:

The current ratio is the simplest and least strict. It measures current assets (those that can reasonably be converted to cash in one year) against current liabilities. Its formula would be:

Current Ratio = Current Assets / Current Liabilities

Quick Ratio (Acid-test ratio):

The quick ratio, or acid-test ratio, is slightly stricter. It excludes inventories and other current assets, which are not as liquid as cash and cash equivalents, accounts receivable, and short-term investments. The formula is:

Quick Ratio = (Cash and Cash Equivalents + Short-Term Investments + Accounts Receivable) / Current Liabilities

Acid-Test Ratio (Variation):

A variation of the quick/acid-test ratio simply subtracts inventory from current assets, making it a bit more generous:

Acid-Test Ratio (Variation) = (Current Assets - Inventories - Prepaid Costs) / Current Liabilities

Cash Ratio:

The cash ratio is the most exacting of the liquidity ratios. Excluding accounts receivable, as well as inventories and other current assets, it defines liquid assets strictly as cash or cash equivalents.

More than the current ratio or acid-test ratio, the cash ratio assesses an entity's ability to stay solvent in the case of an emergency—the worst-case scenario—on the grounds that even highly profitable companies can run into trouble if they do not have the liquidity to react to unforeseen events. Its formula is:

Cash Ratio = Cash and Cash Equivalents / Current Liabilities

In terms of investments, equities as a class are among the most liquid assets. But not all equities are created equal when it comes to liquidity. Some shares trade more actively than others on stock exchanges, meaning there is more of a market for them. In other words, they attract greater, more consistent interest from traders and investors. These liquid stocks are usually identifiable by their daily volume, which can be in the millions, or even hundreds of millions, of shares.

For example, on April 26, 2019, 8.4 million shares of Amazon.com (AMZN) were traded on the NASDAQ. While that amount may sound like good liquidity, it is still far less liquid than, say, Intel (INTC), which led the NASDAQ that day, with a volume of 72 million shares—or to Ford Motor (F), which led the New York Stock Exchange (NYSE) with a volume of 156 million shares, making it the most liquid stock in the U.S. that day.

If markets are not liquid, it becomes difficult to sell or convert assets or securities into cash. You may, for instance, own a very rare and valuable family heirloom appraised at \$150,000. However, if there is no market (i.e., no buyers) for your object, then it is irrelevant since nobody will pay anywhere close to its appraised value—it is very illiquid. It may even require hiring an auction house to act as a broker and track down potentially interested parties, which will take time and incur costs.

Liquid assets, however, can be easily and quickly sold for their full value and with little cost. Companies also must hold enough liquid assets to cover their short-term obligations like bills or payroll or else face a liquidity crisis, which could lead to bankruptcy.

Cash is the most liquid asset followed by cash equivalents, which are things like money markets, CDs, or time deposits. Marketable securities such as stocks and bonds listed on exchanges are often very liquid and can be sold quickly via a broker. Gold coins and certain collectibles may also be readily sold for cash.

Securities that are traded Over-the-Counter (OTC) such as certain complex derivatives are often quite illiquid. For individuals, a home, a timeshare, or a car are all somewhat illiquid in that it may take several weeks to months to find a buyer, and several more weeks to finalize the transaction and receive payment. Moreover, broker fees tend to be quite large (e.g., 5-7% on average for a realtor).

The most liquid stocks tend to be those with a great deal of interest from various market actors and a lot of daily transaction volume. Such stocks will also attract a larger number of market makers who maintain a tighter two-sided market. Illiquid stocks have wider bid-ask spreads and less market depth. These names tend to be lesser-known, have lower trading volume, and often also have lower market value and volatility. Thus, the stock for a large multi-national bank will tend to be more liquid than that of a small regional bank.

Credit risk analysis is primarily concerned with pricing and quantifying the risk of corporate bonds and loan portfolios, but the explosive growth in the credit derivative markets, most notably in the markets for credit default swaps and collateralized debt obligations (CDOs), has also directed much of the attention of recent research towards understanding these markets. Liquidity risk-in the context of understanding the functioning of financial markets-can broadly be divided into two types of risk:

Funding liquidity, which addresses the risk that the borrowing, with or without collateral, of financial institutions and investors suddenly becomes more restricted, and market liquidity which deals with apparent breakdowns in the agents' ability to liquidate positions, i.e., to sell assets.

Pressure to sell may arise for example from binding capital requirements, margin calls, withdrawal of funds from managed investments or a desire to cut losses on a position deemed to be unfavorable. Selling pressure often occurs systematically, i.e., in several markets, leading to liquidity and margin spirals in which falling prices cause capital requirements to become binding, and margin calls and fund withdrawals to increase, thereby further increasing the selling pressure and the downward pressure on prices. The falling prices will affect the value of collateral used by borrowers, thereby restricting their access to funding. Lenders may be reluctant to lend at all because of the weakening of borrowers' balance sheets which increases the default risk of their counterparties. This may cause breakdowns in otherwise highly liquid markets such as markets for commercial paper and interbank lending. Heavy use of leverage and lack of transparency of balance sheets, perhaps because of lack of transparency of the nature of the investments in complex securities, may contribute to such breakdowns.

The risks outlined above are not new, but the severity by which they have hit the entire financial system has underlined the relevance of a number of research questions in financial economics. From an asset pricing perspective, a critical question is to what extent differences in the liquidity of assets affect their returns. Liquidity of assets can be measured in many ways, but popular proxies are the bid-ask spread, price impact of trades as a function of volume traded and turnover statistics. There is strong evidence of liquidity effects in stock markets demonstrating that stocks with similar cash flows trade at different prices because of trading restrictions in one of the stocks. There is also evidence that the extent to which an asset has systematic liquidity risk, i.e., its liquidity breaks down when it is needed the most, has an effect on pricing. More recently, the study of liquidity risk has addressed the corporate bond market, whose transparency has greatly improved over the last decade and which therefore lends itself to a much more careful study. A big challenge here is to separate the effects of liquidity from the risk of default on the pricing of corporate bonds and in the closely related market for credit default swaps.

A second important issue in asset pricing is how to price so-called tranches of CDOs, i.e., prioritized claims on a portfolio of defaultable securities. The pricing of these tranches obviously depends on the default probability and severity of loss in default of the underlying collateral pool, but it depends critically on assumptions of default correlation as well, i.e., the extent to which defaults in the underlying pool tend to appear in clusters.

This in turn leads to much more general questions, again related to financial crises, on how to model and measure contagion effects in the economy in general and among financial institutions in particular. How can we assess the extent to which balance sheet effects and systematic liquidity breakdowns cause financial distress to propagate through the system? Regulators are particularly concerned with the stability of financial institutions due to the special role of the payment system in the economy. Questions on how to regulate the risk taking of financial institutions and alleviate the risks in crises through liquidity provision from central banks are becoming more and more important because of the growth and interlinked nature of financial markets.

Credit Default Swaps (CDS)

A Credit Default Swap (CDS) is the most highly utilized type of credit derivative. In its most basic terms, a CDS is similar to an insurance contract, providing the buyer with protection against specific risks. Most often, investors buy credit default swaps for protection against default, but these flexible instruments can be used in many ways to

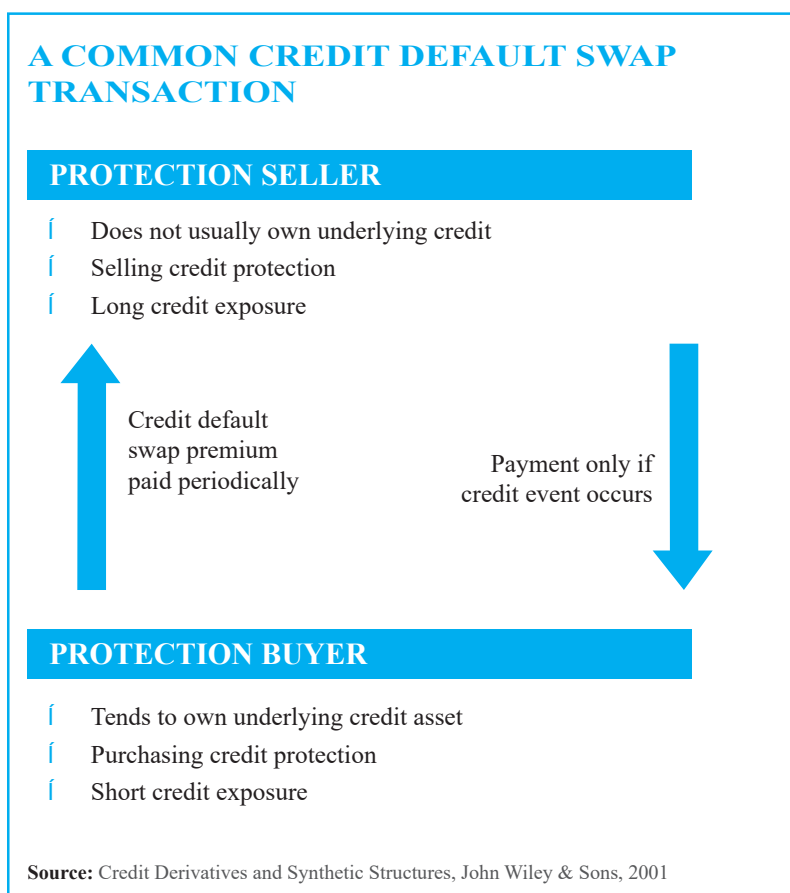
customize exposure to the credit market.

CDS contracts can mitigate risks in bond investing by transferring a given risk from one party to another without transferring the underlying bond or other credit assets. Prior to credit default swaps, there was no vehicle to transfer the risk of a default or other credit event, from one investor to another.

In a CDS, one party “sells” risk and the counterparty “buys” that risk. The “seller” of credit risk – who also tends to own the underlying credit asset – pays a periodic fee to the risk “buyer.”

In return, the risk “buyer” agrees to pay the “seller” a set amount if there is a default (technically, a credit event). CDSs are designed to cover many risks, including defaults, bankruptcies, and credit rating downgrades.

The graphic below illustrates the credit default swap transaction between the risk “seller,” who is also the protection “buyer,” and the risk “buyer,” who is also the protection “seller.”



The credit default swap market is generally divided into three sectors:

- Single-credit CDS referencing specific corporates, bank credits and sovereigns.
- Multi-credit CDS, which can reference a custom portfolio of credits agreed upon by the buyer and seller,
- CDS index. The credits referenced in a CDS are known as “reference entities.” CDS range in maturity

from one to 10 years although the five-year CDS is the most frequently traded.

Credit default swaps provide a measure of protection against previously agreed-upon credit events. Below are the most common credit events that trigger a payment from the risk “buyer” to the risk “seller” in a CDS.

Commonly Established CDS Credit Events	
Bankruptcy	The reference entity becomes insolvent or is unable to pay its debts
Failure to Pay	The reference entity fails to make interest or principal repayments when due
Debt Restructuring	The configuration of debt obligations is changed in such a way that the credit holder is unfavorably affected
Obligation Acceleration or Obligation Default	The debt obligations of the issuer become due before their originally scheduled maturity date
Repudiation/Moratorium	The issuer of the underlying bond (the reference entity) rejects their debt, effectively refusing to pay interest and principal

Source: International Swaps and Derivatives Association

The settlement terms of a CDS are determined when the CDS contract is written. The most common type of CDS involves exchanging bonds for their par value, although the settlement can also be in the form of a cash payment equal to the difference between the bonds’ market value and par value.

The CDS market was originally formed to provide banks with the means to transfer credit exposure and free up regulatory capital. Today, CDS has become the engine that drives the credit derivatives market. The growth of the CDS market is due largely to CDS’ flexibility as an active portfolio management tool with the ability to customize exposure to corporate credit.

In addition to hedging credit risk, the potential benefits of CDS include:

- Requiring only a limited cash outlay (which is significantly less than for cash bonds).
- Access to maturity exposures not available in the cash market.
- Access to credit risk with limited interest rate risk.
- Investments in foreign credits without currency risk.
- At times, more liquidity than investing in the underlying cash bonds.

The performance of credit default swaps, like that of corporate bonds, is closely related to changes in credit spreads. This sensitivity makes them an effective tool for portfolio managers to hedge or gain exposure to credit. Credit default swaps also allow for arbitrage opportunities.

Credit Default Swap (CDS)

Credit Default Swap (CDS) is a financial instrument for swapping the risk of debt default. Credit default swaps may be used for emerging market bonds, mortgage-backed securities, corporate bonds, and local government bonds.

The buyer of a credit default swap pays a premium for effectively insuring against a debt default. He receives a lump sum payment if the debt instrument defaults.

The seller of a credit default swap receives monthly payments from the buyer. If the debt instrument defaults, they have to pay the agreed amount to the buyer of the credit default swap.

Example of Credit Default Swap:

- An investment trust owns £1 million in corporate bonds issued by a private housing firm.
- If there is a risk the private housing firm may default on repayments, the investment trust may buy a CDS from a hedge fund. The CDS is worth £1 million.
- The investment trust will pay interest on this credit default swap of say 3%. This could involve payments of £30,000 a year for the duration of the contract.
- If the private housing firm doesn't default. The hedge fund gains the interest from the investment bank and pays nothing out. It is simple profit.
- If the private housing firm does default, then the hedge fund has to pay compensation to the investment bank of £1 million the value of the credit default swap.
- Therefore, the hedge fund takes on a larger risk and could end up paying £ 1 million.

The higher the perceived risk of the bond, the higher the interest rate the hedge fund will require.

Example of Credit Default Swap:

- Example, suppose that Lloyds TSB has lent money to riskymortgage.co.uk in the form of a £1,000 bond.
- Lloyds TSB may then purchase a credit default swap from another company e.g. a Hedge Fund.
- If the firm (Riskymortgage.co.uk) defaults on the loan, then the hedge fund will pay Lloyds TSB the value of the loan.
- Thus, Lloyds TSB has insurance against loan default. The hedge fund has the opportunity to make a profit, so long as the firm does not default on the loan.
- The riskier the loan, the higher will be the premium required on buying a credit default swap.

Why Would People Buy Credit Default Swaps?

1. **Hedge against Risk.** Suppose an investment fund owned mortgage bonds from riskymortgage.co.uk. It might be worried about losing all its investment. Therefore, to hedge against the risk of default, they could purchase a credit default swap from Lloyds TSB. If riskymortgage.co.uk defaulted, they will lose their investment, but receive a pay-off from Lloyds to compensate. If they don't default, they have paid a premium to Lloyds but have had security.
2. **Speculation e.g., the Risk is Under-Priced.** Suppose a hedge fund felt a risky mortgage was very likely to default because of a rise in home repossessions. They would buy a credit default swap. If the debt defaulted, then they would make a profit from Lloyds TSB. Note you don't have to own debt to take a credit default swap.

The riskier a bond is the higher premium will be required from a buyer of a credit default swap. It is argued that credit default swaps provide an important role in indicating the riskiness/creditworthiness of a firm.
3. **Arbitrage.** If a company's financial position improves, the credit rating should also improve and therefore, the CDS spread should fall to reflect an improved rating. This makes CDS more attractive to sell CDS protection. If the company's position deteriorated, CDS protection would be more attractive to buyers. Arbitrage could occur when dealers exploit any slowness of the market to respond to signals.

Credit Default Swaps in Markets:

- The first credit default swap was introduced in 1995 by JP Morgan. By 2007, their total value has increased from an estimated \$45 trillion to \$62 trillion. Although since only 0.2% of investment companies default, the cash flow is much lower than this actual amount.

- The size of the credit default market dwarfs that of the stock market and the bond market they represent. Therefore, this shows that credit default swaps are being used for speculation and not insuring against actual bonds.
- Credit Default Swaps are unregulated and because they get traded so frequently there is uncertainty about who owns them and whether the holders can actually pay in the event of a negative credit event.

Credit Default Swaps and Credit Crisis:

Some have suggested credit default swaps have exacerbated the financial crisis of 2008. E.g., When Lehman Brothers went bankrupt, it meant a lot of credit default guarantees would go unrewarded. E.g., Washington Mutual bought corporate bonds in 2005 and hedged its exposure by buying CDS protection from the Lehman brothers. With the Lehman Brothers going bankrupt this CDS protection was nullified.

Others say that credit default is only an instrument reflecting changes in risk and is not the cause of the underlying liquidity problems.

Example 1: Hedging loan concentrations; Imagine that a bank has a long-standing relationship with a borrower. The borrower has requested a term loan for ₹ 100 Crores for a period of 5 years for setting up a sponge iron plant. The bank cannot extend the loan because the new exposure would exceed bank limits set for iron and steel exposure.

Solution: The bank can extend the loan and arrange a total return swap with a hedge fund investor. The total return of the loan, paid on a periodic basis, includes all fees, interest received, amortization and any pre-payments. The bank would receive a spread over 5 year Government of India security such that it covers cost of funds, transaction costs and some profit margin.

The advantages of this approach are that the bank:

- Retains its customer.
- Hedges the risk of the loan.
- Reduces the amount of regulatory capital.

Example 2: Transferring default risks; Imagine that an A-rated oil company is planning to arrange a fully drawn one-year credit for ₹1,600 Crores and has invited few banks into the deal. The company requested the bank to commit ₹600 Crores but the bank's credit portfolio management team has placed a limit of ₹200 Crores as they are concerned about the bank's significant exposure to the oil company.

Solution: The bank can commit to the request and arrange a credit default swap with another bank for ₹400 Crores. The bank can approach foreign or regional banks that are at a credit risk origination disadvantage and transfer the credit risk of the credit without transferring the loan itself.

The advantages of this approach include:

- The bank-client relationship is preserved
- Alternative strategies, such as sales in the secondary markets or participation, may have adverse consequences on the bank-client relationship.
- The bank enjoys the fee-based income associated with a higher level of commitment.
- The hedging bank has significantly diversified its risk, only experiencing a default if both the oil company and counterparty bank fail jointly and concurrently to perform. This joint probability of default is likely to be quite low.
- The return on capital of the hedged position can be significantly higher.

Example 3: Revenue neutral diversification CDS; Adding loan assets to a portfolio can reduce portfolio variance provided the assets are less positively correlated with the assets in the existing portfolio.

Solution: Banks may increase their degree of diversification by adding assets in a way that is neutral in terms of revenue and capital. One way to achieve this is to buy credit protection from a highly rated (and not highly correlated) bank counterparty on one or more of its original assets. The premium for this credit default swap may be funded by the sale of protection on other credit assets that are less positively related to the original portfolio.

Given a Credit spread for the acquired risk is at least equivalent to assets put under protection and assuming no other transaction costs, the portfolio risk (defined as the standard deviation) is reduced while portfolio revenue remains neutral.

The advantages are:

- A reduction in credit concentration as the portfolio diversification is achieved
- No reduction in portfolio return.

Example 4: Hedging illiquid bonds; One useful aspect of credit derivatives is their ability to mitigate illiquid credit and market risks. Let us assume that such security is trading at 90% of par, which may fall further during the remaining maturity period. The bank would like to create a price floor at 90% and give up the opportunity of participating in any appreciation to par.

Solution: Pay the total return on the security to a credit derivatives dealer, creating a 90% price floor on the investment. By paying the total return for the period leading up to the maturity date, the bank is immunized against any further fall in price below the level of 90%.

Example 5: Suppose a protection buyer purchases 5-year protection on a company at a default swap spread of 300bp. The face value of the protection is \$10 million. The protection buyer therefore makes quarterly payments approximately equal to $\$10 \text{ million} \times 0.03 \times 0.25 = \$75,000$. Assume that after a short period the reference entity suffers a credit event and that the CTD asset of the reference entity has a recovery price of \$45 per \$100 of face value.

Solution: The payments are as follows:

- The protection seller compensates the protection buyer for the loss on the face value of the asset received by the protection buyer. This is equal to $\$10 \text{ million} \times (100\% - 45\%) = \5.5 million .
- The protection buyer pays the accrued premium from the previous premium payment date to the time of the credit event. For example, if the credit event occurs after a month, then the protection buyer pays approximately $\$10 \text{ million} \times 0.03 \times 1/12 = \$18,750$ of the premium accrued.

Note that this is the standard for corporate reference entity-linked default swaps. For sovereign-linked default swaps there may be no payment of premium accrued.

Explanation: A credit default swap (CDS) is a contract that gives the buyer of the contract a right to receive compensation from the seller of the contract in the event of default of a third party. The buyer of the contract is typically a bondholder who is looking to transfer his credit exposure to another party. The seller is typically a bank that earns from the premiums it receives from the buyer.

Each CDS has a notional amount and it requires the buyer to pay a premium called CDS spread. Because the periodic premium rates are standardized, the buyer may also be required to pay an amount at the time 0 of the CDS seller. This amount is called the upfront premium.

The seller of the CDS pays the buyer an amount equal to the loss incurred by the buyer on the occurrence of a credit event. The credit event is binary in nature, i.e., it occurs, or it doesn't. Typical credit events include (a) a filing for

bankruptcy by the third party on whose bond the CDS was issued, (b) any failure by the third party to pay interest on its bonds and (c) any restructuring of the debt.

Formula:

When it is established that a credit event has occurred, the amount paid by the CDS seller to the buyer is calculated using the following formula:

$$\text{Pay-out Amount} = N \times \text{Pay-out Ratio} = N \times (1 - \text{Recovery Rate})$$

Where N is the notional amount and the pay-out ratio is the loss incurred by a bondholder as a percentage of the bond's par value. It equals 1 minus the recovery rate, which is the percentage of the amount owed which is recovered by a bondholder during the bankruptcy proceedings.

During the life of the CDS, the profit (loss) that accrues to the buyer (seller) of the CDS can be approximated as follows:

$$\text{Profit to the buyer of CDS} = \Delta \text{CDS} \times N \times D$$

Δ CDS is the basis point change in credit spread, N is the notional amount and D is the duration of the bond.

It follows that if the default spread increases over the life of the CDS, the buyer gains and if the spread shrinks the seller gains.

Example 6: A bank has loaned \$40 million to a company for 5 years requiring periodic interest payments equal to LIBOR + 2.2%. The bank's policy requires all loans to be backed by a credit default swap on the principal amount of loans made. In this case, the bank can buy a CDS with a notional amount of \$40 million. The CDS costs 2%. The bank must pay an amount equal to 2% of the notional amount to the CDS seller each year. Annual premium amounts to \$800,000 ($2\% \times \40 million).

Solution: If the borrower defaults on the final principal payment and the bank collect only 50% of its principal back, it can claim the differential from the seller of the CDS. The amount he will receive from the CDS sell is approximately equal to \$20 million ($\$40 \text{ million} \times (1 - 50\%)$). If the borrower doesn't default on the final principal amount, the bank doesn't receive anything.

Example 7: Explain the difference between a regular credit default swap and a binary credit default swap.

Solution: Both provide insurance against a particular company defaulting during a period of time. In credit default swap the payoff is the notional principal amount multiplied by one minus the recovery rate. In a binary swap the payoff is the notional principal.

Example 8: A credit default swap requires a semi-annual payment at the rate of 60 basis points per year. The principal is \$300 million and the credit default swap is settled in cash. A default occurs after four years and two months, and the calculation agent estimates that the price of the cheapest deliverable bon is 40% of its face value shortly after the default. List the cash flows and their timing for the seller of the credit default swap.

Solution: The Seller receives = $300,000,000 \times 0.0060 \times 0.5 = \$ 900,000$

At times 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, and 4.0 years. The seller also receives a final accrual payment of about \$300,000 ($=\$300,000,000 \times 0.060 \times 2/12$) at the time of the default (4 Years and two months). The seller pays

$$300,000,000 \times 0.6 = \$ 180,000,000$$

At the time of the default.

Example 9: A Credit default swap can be settled in two ways:

Solution: Sometimes there is physical settlement and sometimes there is cash settlement. In the event of a default

when there is physical settlement the buyer of protection sells bonds issued by the reference entity for their face value. Bonds with a total face value equal to the notional principal can be sold. In the event of a default when there is cash settlement a calculation agent estimates the value of the cheapest-to-deliver bonds issued by the reference entity a specified number of days after the default event. The cash payoff is then based on the excess of the face value of these bonds over the estimated value.

Example 10: How does a five-year n th-to-default credit default swap work. Consider a basket of 100 reference entities where each reference entity has a probability of defaulting in each year of 1%. As the default correlation between the reference entities increases what would you expect to happen to the value of the swap when (a) $n = 1$ and (b) $n = 25$. Explain your answer.

Solution: A five-year n th to default credit default swap works in the same way as a regular credit default swap except that there is a basket of companies. The payoff occurs when the n th default from the companies in the basket occurs. After the n th default has occurred the swap ceases to exist. When $n = 1$ (so that the swap is a “first to default”) an increase in the default correlation lowers the value of the swap. When the default correlation is zero there are 100 independent events that can lead to a payoff. As the correlation increases the probability of a payoff decreases. In the limit when the correlation is perfect there is in effect only one company and therefore only one event that can lead to a payoff.

When $n = 25$ (so that the swap is a 25th to default) an increase in the default correlation increases the value of the swap. When the default correlation is zero there is virtually no chance that there will be 25 defaults and the value of the swap is very close to zero. As the correlation increases the probability of multiple defaults increases. In the limit when the correlation is perfect there is in effect only one company and the value of a 25th-to-default credit default swap is the same as the value of a first-to-default swap.

3.3.4 Liquidity Risk in Insurance Services

Following the 2007-2008 global financial crisis, there has been a renewed focus on liquidity risk. This is particularly true for banks but this risk has not been regarded as a major issue within the insurance sector. In 2009 Lord Adair Turner, the chairman of the Financial Services Authority (FSA), stated that “insurance companies are not banks, and they differ from banks above all in the much lower importance of liquidity risks, which have played such a central role in this banking crisis”.

What is liquidity risk?

The FSA defines this as “the risk that a firm, though solvent, either does not have sufficient financial resources available to enable it to meet its obligations as they fall due, or can secure them only at excessive cost”. Simply put, a firm faces liquidity risk when, in spite of holding a higher level of assets than liabilities, these assets are ‘illiquid’, and not easily convertible to cash. This forces it to sell its assets at a discount to quickly raise the required cash resources. Alternatively, the firm may borrow funds, which will further require a payment of interest on the loan, therefore giving rise to the ‘excessive cost’.

Banks vs insurers:

The nature of liquidity risk largely differs within the two industries. The banking sector’s major role in financial intermediation involves the transformation of short-term deposits into longer-term loans, such as mortgages, by lending it out to borrowers. This makes it susceptible to the risk that their creditors may demand a repayment or withdraw their funds at an uncertain time.

Additionally, the banking sector faces the risk of contagion, which is not readily observed within the insurance industry. Depositors immediately begin to withdraw their funds once the word spreads that a specific bank is in trouble. This is due to the public’s inability to assess the solvency position of each individual bank. Therefore, the

failure of one bank may lead to a collapse in the confidence of the entire banking system, as was observed during the 2007-2008 financial crisis.

On the contrary, insurance companies:

- Usually referred to as ‘risk intermediaries’.
- Transfer the risk of a loss arising from a contingent event, from the policyholder to the insurer, in exchange for premiums.

Situations where the traditional insurance sector may be a source of financial instability are unlikely. These firms are financed by premiums that are paid in advance and the claim payments are only made on the occurrence of the pre-defined insured event.

The use of leveraging to increase expected returns is generally not practiced by insurance companies, making it less vulnerable to liquidity risk during a financial market collapse. However, insurance taken out on mortgages and various credit types may expect large losses as a result of default by banks and creditors during a financial crisis, resultantly causing a strain on the insurers’ balance sheets.

Is liquidity risk an issue for general insurers?

With the exception of liability insurance, the cover is usually provided for on an annual basis. A quick look at the financial statements of non-life insurance companies suggests that a large proportion of their assets is invested in highly liquid government bonds, such as three-month treasury bills, which are suitable to match these liabilities.

The greatest threat to liquidity may occur during a catastrophe when a large number of claims are received at once or there may be prospects of a significantly large claim. For these situations, they have risk management processes in place, such as reinsurance cover and alternative risk transfer methods such as cat bonds. In some cases, the full amount is not paid for a period after the event until the losses are fully adjusted, giving additional time to liquidate the assets, avoiding a liquidity crunch in the short run. Certain lines of business are more prone to large unexpected pay-outs than others.

The major restriction is posed by rating agencies, where companies are penalised under their factor-based models for holding long bonds or equities.

Overall, catastrophic events are rare and general insurers largely concentrate on managing the vulnerability to such events. Thus, these firms view their exposure to liquidity risk as being a consequence of a major catastrophe and so the risk is usually contained within insurance, investment or credit risk.

What about its effect on the life sector?

The most severe liquidity stress scenario faced by life insurers is a mass surrender of policies that arise due to a loss in the confidence of the financial strength of a firm.

Liquidity risk may further arise from investing in property, futures and dealing in derivatives. Property purchases usually involve a large outflow in a single transaction. This therefore, causes temporary liquidity problems unless sufficient funds are put in place in advance. Certain policy conditions may give rise to liquidity risk. When interest rates fell, firms faced severe liquidity problems since the option to take out the loan on the policy became valuable.

Reinsurance may additionally pose a residual liquidity risk with delays in payment by the reinsurer or their default which, while classed as a credit risk event, also poses major liquidity issues for the firm.

Finally, the types of life insurance products issued by a firm will affect its liquidity risk exposure. Products that are easily surrendered, in return for a surrender value, pose a higher level of risk. The inability to control the amount and defer the payment of the surrender value increases the inherent level of liquidity risk.

With-profit contracts provide an example of such policies. Although the surrender value is set by the insurer, their ability to vary these values will be limited by the firm's principles and practices of financial management. Furthermore, the settlement cannot be deferred and requires immediate payment.

3.3.5 Measuring Liquidity Risk

After the global financial crisis, in recognition of the need for banks to improve their liquidity risk management, the Basel Committee on Banking Supervision (BCBS) published "Principles for Sound Liquidity Risk Management and Supervision" in September 2008. The broad principles for sound liquidity risk management by banks as envisaged by BCBS are as under:

BCBS's Fundamental principle for the management and supervision of liquidity risk:	
Principle 1	A bank is responsible for the sound management of liquidity risk. A bank should establish a robust liquidity risk management framework that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources. Supervisors should assess the adequacy of both a bank's liquidity risk management framework and its liquidity position and should take prompt action if a bank is deficient in either area in order to protect depositors and to limit potential damage to the financial system.
Governance of liquidity risk management:	
Principle 2	A bank should clearly articulate a liquidity risk tolerance that is appropriate for its business strategy and its role in the financial system.
Principle 3	Senior management should develop a strategy, policies and practices to manage liquidity risk in accordance with the risk tolerance and to ensure that the bank maintains sufficient liquidity. Senior management should continuously review information on the bank's liquidity developments and report to the board of directors on a regular basis. A bank's board of directors should review and approve the strategy, policies and practices related to the management of liquidity at least annually and ensure that senior management manages liquidity risk effectively.
Principle 4	A bank should incorporate liquidity costs, benefits and risks in the internal pricing, performance measurement and new product approval process for all significant business activities (both on- and off-balance sheet), thereby aligning the risk-taking incentives of individual business lines with the liquidity risk exposures their activities create for the bank as a whole.
Measurement and management of liquidity risk:	
Principle 5	A bank should have a sound process for identifying, measuring, monitoring and controlling liquidity risk. This process should include a robust framework for comprehensively projecting cash flows arising from assets, liabilities and off-balance sheet items over an appropriate set of time horizons.
Principle 6	A bank should actively monitor and control liquidity risk exposures and funding needs within and across legal entities, business lines and currencies, taking into account legal, regulatory and operational limitations to the transferability of liquidity.

Principle 7	A bank should establish a funding strategy that provides effective diversification in the sources and tenor of funding. It should maintain an ongoing presence in its chosen funding markets and strong relationships with funds providers to promote effective diversification of funding sources. A bank should regularly gauge its capacity to raise funds quickly from each source. It should identify the main factors that affect its ability to raise funds and monitor those factors closely to ensure that estimates of fund-raising capacity remain valid.
Principle 8	A bank should actively manage its intraday liquidity positions and risks to meet payment and settlement obligations on a timely basis under both normal and stressed conditions and thus contribute to the smooth functioning of payment and settlement systems.
Principle 9	A bank should actively manage its collateral positions, differentiating between encumbered and unencumbered assets. A bank should monitor the legal entity and physical location where collateral is held and how it may be mobilised in a timely manner.
Principle 10	A bank should conduct stress tests on a regular basis for a variety of short-term and protracted institution-specific and market-wide stress scenarios (individually and in combination) to identify sources of potential liquidity strain and to ensure that current exposures remain in accordance with a bank's established liquidity risk tolerance. A bank should use stress test outcomes to adjust its liquidity risk management strategies, policies, and positions and to develop effective contingency plans.
Principle 11	A bank should have a formal contingency funding plan (CFP) that clearly sets out the strategies for addressing liquidity shortfalls in emergency situations. A CFP should outline policies to manage a range of stress environments, establish clear lines of responsibility, include clear invocation and escalation procedures and be regularly tested and updated to ensure that it is operationally robust.
Principle 12	A bank should maintain a cushion of unencumbered, high quality liquid assets to be held as insurance against a range of liquidity stress scenarios, including those that involve the loss or impairment of unsecured and typically available secured funding sources. There should be no legal, regulatory or operational impediment to using these assets to obtain funding.
Public disclosure:	
Principle 13	A bank should publicly disclose information on a regular basis that enables market participants to make an informed judgment about the soundness of its liquidity risk management framework and liquidity position.

3.3.6 Managing Liquidity Risk

The Reserve Bank had issued guidelines on Asset Liability Management (ALM) system, covering inter alia liquidity risk management system, in February 1999 and October 2007. Successful implementation of any risk management process has to emanate from the top management in the bank with the demonstration of its strong commitment to integrate basic operations and strategic decision making with risk management. *Ideally, the organisational set up for liquidity risk management should be as under:*

The Board of Directors (BOD): The BoD should have the overall responsibility for management of liquidity risk. The Board should decide the strategy, policies and procedures of the bank to manage liquidity risk in accordance with the liquidity risk tolerance/limits. The risk tolerance should be clearly understood at all levels of management. The Board should also ensure that it understands the nature of the liquidity.

The Risk Management Committee: The Risk Management Committee, which reports to the Board, consisting of Chief Executive Officer (CEO) Chairman and Managing Director (CMD) and heads of credit, market and

operational risk management committee should be responsible for evaluating the overall risks faced by the bank including liquidity risk. The potential interaction of liquidity risk with other risks should also be included in the risks addressed by the risk management committee.

The Asset-Liability Management Committee (ALCO): The Asset-Liability Management Committee (ALCO) consisting of the bank's top management should be responsible for ensuring adherence to the risk tolerance / limits set by the Board as well as implementing the liquidity risk management strategy of the bank in line with bank's decided risk management objectives and risk tolerance.

The Asset Liability Management (ALM) Support Group: The ALM Support Group consisting of operating staff should be responsible for analysing, monitoring and reporting the liquidity risk profile to the ALCO. The group should also prepare forecasts (simulations) showing the effect of various possible changes in market conditions on the bank's liquidity position and recommend action needed to be taken to maintain the liquidity position/adhere to bank's internal limits.

3.3.7 Asset Liability Management-Concept

In the normal course, banks are exposed to credit and market risks in view of the asset-liability transformation. With liberalisation in Indian financial markets over the last few years and growing integration of domestic markets and with external markets, the risks associated with banks' operations have become complex and large, requiring strategic management. Banks are now operating in a fairly deregulated environment and are required to determine on their own, interest rates on deposits and advance in both domestic and foreign currencies on a dynamic basis. The interest rates on banks' investments in government and other securities are also now market related. Intense competition for business involving both the assets and liabilities, together with increasing volatility in the domestic interest rates as well as foreign exchange rates, has brought pressure on the management of banks to maintain a good balance among spreads, profitability and long-term viability. Imprudent liquidity management can put banks' earnings and reputation at great risk. These pressures call for structured and comprehensive measures and not just *ad hoc* action. The Management of banks has to base their business decisions on a dynamic and integrated risk management system and process, driven by corporate strategy. Banks are exposed to several major risks in the course of their business- credit risk, interest rate risk, foreign exchange risk, equity / commodity price risk, liquidity risk and operational risk. It is, therefore, important that banks introduce effective risk management systems that address the issues related to interest rate, currency and liquidity risks.

Banks need to address these risks in a structured manner by upgrading their risk management and adopting more comprehensive Asset-Liability Management (ALM) practices than has been done hitherto. ALM, among other functions, is also concerned with risk management and provides a comprehensive and dynamic framework for measuring, monitoring and managing liquidity, interest rate, foreign exchange and equity and commodity price risks of a bank that needs to be closely integrated with the banks' business strategy. It involves assessment of various types of risks and altering the asset-liability portfolio in a dynamic way in order to manage risks.

The initial focus of the ALM function would be to enforce the risk management discipline viz. managing business after assessing the risks involved. The objective of good risk management systems should be that these systems will evolve into a strategic tool for bank management.

The ALM process rests on three pillars:

- ALM Information Systems.
- Management Information Systems.
- Information availability, accuracy, adequacy and expediency.

ALM Organisation:

- Structure and responsibilities.
- Level of top management involvement.

ALM Process:

- Risk parameters.
- Risk identification.
- Risk measurement.
- Risk management.
- Risk policies and tolerance levels.

3.3.8 Role of ALM in managing Interest Rate Risk and Liquidity Risk

Liquidity and interest rate are two sides of the same coin, as the liquidity risk translates into interest rate risk, when the bank has to recycle the deposit funds or rollover a credit on market determined terms. However, banks are extra sensitive to liquidity risks, as they cannot afford to default or delay meeting their obligations to depositors and other lenders. Even suspicion of pressure over a bank's liquidity may prompt a run on the bank, or indeed, threaten the very survival of the bank. Hence special attention is paid to liquidity, in particular short-term liquidity (intra-day to one month) to ensure funds are promptly made available when they are needed.

In ALM, assets yield income, hence are shown as cash inflows, while liabilities need to be repaid, hence are shown as cash outflows. Asset-liability mismatch is therefore, a cash flow mismatch, with excess inflow or outflow of funds. If part of inflow or outflow is denominated in foreign currency, there is also currency mismatch which needs to be managed by the Treasury.

Liquidity implies a positive cash flow. It is not only cash surpluses retained by the bank, but also other sources where cash can be readily drawn, such as committed credit lines from other banks, liquefiable securities and nostro balances. The available cash resources are compared with immediate liabilities of the bank in the given time range and the net liquidity is worked out. In different time bands, the loans falling due for repayment constitute the main source of funds, while the deposits and other obligations maturing during the same time band constitute uses of funds. (In both cases, interest flows are also considered as and when they arise.) The difference between sources and uses of funds in specific time bands is known as liquidity gap which may be positive or negative i.e., when advances are more than deposits in a time bucket, it becomes a positive gap and when deposits are more than advances in a time bucket, it becomes negative gap. Hence the liquidity gap arises out of mismatch of assets and liabilities of the bank.

RBI has prescribed time bands (Next day, 2 to 7 days, 8 to 14 days, 15 to 30 days, etc.) for measuring and monitoring liquidity gaps. ALM process involves plotting of assets and liabilities maturity wise in time buckets and measuring the gap between assets and liabilities maturing in a specific time period. Liquidity risk is reflected as maturity mismatch-which is the gap in cash inflow and outflow. The risk is not being able to find enough cash, or cash at acceptable rate of interest, to fund the gap.

Liquidity risk will also arise if the liquidity in market dries up and the bank is not able to dispose of its liquid securities without suffering a loss, or if the liquefiable securities suddenly become 'illiquid'. The Bank should hence take in to account, the marketability of securities, while classifying them as liquid instruments in the nearest time buckets.

RBI from time-to-time issues detailed guidelines for managing ALM risks. RBI is more particular about short-

term liquidity, ranging from intra-day to one month. Current guidelines stipulate that the net cumulative negative mismatches during the Next day, 2-7 days, 8-14 days and 15-28 days buckets should not exceed 5%, 10%, 15% and 20% of the cumulative cash outflows in the respective time buckets. Banks are required to provide in their Liquidity Management Policy, contingency measures to meet any shortfall in liquidity. The contingency measures may include stand-by credit lines from other banks, liquid investments and maintenance of adequate securities (in excess of minimum requirement) to facilitate borrowing under Liquidity Adjustment Facility of RBI/or under CBLO.

Interest Rate:

Interest rate risk arises when interest earnings are not adequate to set off interest payments due in a given period, even if the book value of the asset equals that of the liability, owing to a change in market rates of interest.

Net interest income (NII) of the bank is the difference between interest earnings and interest payments in a given accounting period. Hence interest rate risk may be defined as the risk of erosion of NII, on account of interest rate movements in the market.

In a hypothetical situation, let us assume that the Bank has mobilized deposits of ₹. 100 crs., with average maturity of 6 months, at 5% interest. Let us also assume that the bank invested the amount in a fixed interest loan payable after 5 years at 7% p a. the NII is a clear 2% or ₹.2 cr. per year.

The deposits mature after 6 months and need to be replaced or recycled at current market rate, say, at 6% as interest rates have risen by that time. The interest on loan continues to be 7%, hence NII for second half of the year is reduced by 1%. If we assume that the deposits become even costlier after next 6 months, demanding renewal at market rate of say, 8%, the NII actually becomes negative by 1%. However, if deposit rates fall by 2%, the NII correspondingly rises for the specific period.

In a reverse situation, a deposit for 5 years may have a fixed interest, while the deposit funds are deployed, say, in discounting 3-month usance bills, to start with, with a positive spread. If the interest rates fall, subsequent discounting of bills may earn lower rate of interest, in line with market rates, while cost of deposit remains fixed, thereby adversely impacting the NII.

The risk of erosion of NII is on account of deposit rates being floating (repriced every 6 months), while the loan interest is fixed (repriced only after 5 years when the funds are available for fresh lending, on repayment of the loan), or vice versa. The interest rate mismatch is therefore also known as repricing risk.

Repricing risk exists where, in a given time bucket, say 6 months to 1 year, the assets and liabilities which are due for repricing are not equal. A tier-2 bond maturing after 7 years with fixed interest rate of 7%, is not due for repricing during 6m – 1 Year time bucket, hence is not sensitive to changes in market price. However, a loan getting repaid during this period is due for repricing, as fresh lending can take place only at market rates. The bond amount appears in the 5-7 Years time bucket, while the loan amount appears in the 6M – 1 Year time bucket, revealing an interest rate mismatch in both cases.

For the purpose of ALM, all assets and liabilities are placed in time buckets, based on their repricing dates (i.e., when the interest rate is due for a change). The mismatch in each time bucket is measured as a gap between rate sensitive assets and rate sensitive liabilities. The mismatch may be measured either in absolute amounts, or as sensitivity ratio, or as a % of rate sensitive assets to rate sensitive liabilities. The mismatch presents a risk to the NII, hence is to be monitored regularly, with pre-set limits.

It is possible to reduce the mismatch by swapping floating rate to fixed rate or fixed rate to floating rate, that is, by using derivative instruments.

RBI stipulates capital adequacy requirement for market risk, which includes interest rate mismatches. Capital is also to be provided for any derivatives (forwards, options and swaps) used to bridge such mismatches. RBI is

recommending simplified approach under Basel 3, for determining the capital requirement for derivative instruments for Banks which handle a range of sophisticated derivative products like options, options with zero cost structures etc. Intermediate approaches like Delta-Plus Method and Scenario Approach have been recommended for Banks which write options and deal in other sophisticated derivative products.

The gap management is only one way of monitoring ALM. There are other methods for measuring asset liability mismatches, using VaR, Present Value, duration and simulations which would make ALM more effective.

Experience of ALM in Indian Scenario:

- Depositors are always comfortable with fixed rate of interest. Bank like SBI and IDBI in the past introduced deposit schemes linked to floating rate interest, but it had not found the flavour of the depositors. Hence, these products were withdrawn.
- Under the circumstances, in case, the deposit rate goes up subsequent to placement of deposit by the depositors, the depositor would come for premature extension of the deposit and get the enhanced interest rate. Banks also do not charge any penalty for such extension. In case, the deposit rate falls down, the deposit would continue with the deposit at the contracted rate of interest. Hence, the depositors are comfortable in fixed rate interest regime in our country and in the process effectively pass on the interest rate risk to the bank.
- But in the advances side, RBI has introduced the MCLR system from 1st April, 2016, which is a floating rate of interest. Hence, under the interest rate falling scenario, the banks' NIM would be come down since the deposits are at fixed rate and advances are at floating rate. In case, interest rate goes up, the banks may not actually get the full benefit of interest rate hike, as most of the depositors would come premature extension of the deposit. By this, the interest rate going up is nullified and the risk is passed on to the banks.
- In the above scenario, it is difficult to hedge the entire interest rate risk since most of the players i.e., Banks are on one side of the market.

3.3.9 RBI Guidelines

ALM has to be supported by a management philosophy which clearly specifies the risk policies and tolerance limits. This framework needs to be built on sound methodology with necessary information system as back up. Thus, information is the key to the ALM process. It is, however, recognised that varied business profiles of banks in the public and private sector as well as those of foreign banks do not make the adoption of a **uniform ALM System** for all banks feasible. There are various methods prevalent world-wide for measuring risks. These range from the simple Gap Statement to extremely sophisticated and data intensive Risk Adjusted Profitability Measurement methods. However, the central element for the entire ALM exercise is the availability of adequate and accurate information with expedience and the existing systems in many Indian banks do not generate information in the manner required for ALM. Collecting accurate data in a timely manner will be the biggest challenge before the banks, particularly those having wide network of branches but lacking full scale computerisation. However, the introduction of base information system for risk measurement and monitoring has to be addressed urgently. As banks are aware, internationally, regulators have prescribed or are in the process of prescribing capital adequacy for market risks. A pre-requisite for this is that banks must have in place an efficient information system.

Considering the large network of branches and the lack of (an adequate) support system to collect information required for ALM which analyses information on the basis of residual maturity and behavioural pattern, it will take time for banks in the present state to get the requisite information. The problem of ALM needs to be addressed by following an ABC approach i.e., analysing the behaviour of asset and liability products in the sample branches

accounting for significant business and then making rational assumptions about the way in which assets and liabilities would behave in other branches. In respect of foreign exchange, investment portfolio and money market operations, in view of the centralised nature of the functions, it would be much easier to collect reliable information. The data and assumptions can then be refined over time as the bank management gain experience of conducting business within an ALM framework. The spread of computerisation will also help banks in accessing data.

Interest Rate Risk (IRR)

The phased deregulation of interest rates and the operational flexibility given to banks in pricing most of the assets and liabilities imply the need for the banking system to hedge the Interest Rate Risk. Interest rate risk is the risk where changes in market interest rates might adversely affect a bank's financial condition. The changes in interest rates affect banks in a larger way. The immediate impact of changes in interest rates is on bank's earnings (i.e. reported profits) by changing its Net Interest Income (NII). A long-term impact of changing interest rates is on bank's Market Value of Equity (MVE) or Net Worth as the economic value of bank's assets, liabilities and off-balance sheet positions get affected due to variation in market interest rates. The interest rate risk when viewed from these two perspectives is known as 'earnings perspective' and 'economic value' perspective, respectively. The risk from the earnings perspective can be measured as changes in the Net Interest Income (NII) or Net Interest Margin (NIM). There are many analytical techniques for measurement and management of Interest Rate Risk. In the context of poor MIS, slow pace of computerisation in banks and the absence of total deregulation, the traditional Gap analysis is considered as a suitable method to measure the Interest Rate Risk in the first place. It is the intention of RBI to move over to the modern techniques of Interest Rate Risk measurement like Duration Gap Analysis, Simulation and Value at Risk over time when banks acquire sufficient expertise and sophistication in acquiring and handling MIS.

The Gap or Mismatch risk can be measured by calculating Gaps over different time intervals as at a given date. Gap analysis measures mismatches between rate sensitive liabilities and rate sensitive assets (including off-balance sheet positions). An asset or liability is normally classified as rate sensitive if:

- Within the time interval under consideration, there is a cash flow.
- The interest rate resets/reprices contractually during the interval.
- RBI changes the interest rates (i.e. interest rates on Savings Bank Deposits, DRI advances, Export credit, Refinance, CRR balance, etc.) in cases where interest rates are administered and
- It is contractually pre-payable or withdrawal before the stated maturities.

The Gap Report should be generated by grouping rate sensitive liabilities, assets and off-balance sheet positions into time buckets according to residual maturity or next repricing period, whichever is earlier. The difficult task in Gap analysis is determining rate sensitivity. All investments, advances, deposits, borrowings, purchased funds, etc. that mature / reprice within a specified timeframe are interest rate sensitive. Similarly, any principal repayment of loan is also rate sensitive if the bank expects to receive it within the time horizon. This includes final principal payment and interim instalments. Certain assets and liabilities receive/pay rates that vary with a reference rate. These assets and liabilities are repriced at pre-determined intervals and are rate sensitive at the time of repricing. While the interest rates on term deposits are fixed during their currency, the advances portfolio of the banking system is basically floating. The interest rates on advances could be repriced any number of occasions, corresponding to the changes in PLR.

The Gaps may be identified in the following time buckets:

1-28 days.

29 days and upto 3 months.

Over 3 months and upto 6 months.

Over 6 months and upto 1 year.

Over 1 year and upto 3 years.

Over 3 years and upto 5 years.

Over 5 years.

Non-sensitive.

The Gap is the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) for each time bucket. The positive Gap indicates that it has more RSAs than RSLs whereas the negative Gap indicates that it has more RSLs. The Gap reports indicate whether the institution is in a position to benefit from rising interest rates by having a positive Gap ($RSA > RSL$) or whether it is in a position to benefit from declining interest rates by a negative Gap ($RSL > RSA$). The Gap can, therefore, be used as a measure of interest rate sensitivity.

Each bank should set prudential limits on individual Gaps with the approval of the Board / Management Committee. The prudential limits should have a bearing on the **Total Assets, Earning Assets or Equity**. The banks may work out Earnings at Risk (EaR) or Net Interest Margin (NIM) based on their views on interest rate movements and fix a prudent level with the approval of the Board/Management Committee.

If Rate sensitive assets are more than Rate sensitive liabilities, there is a positive gap and if Rate Sensitive liabilities are more than Rate sensitive assets, there is negative gap. If there is negative gap, NII increases if there is decline in interest rate and if there is positive gap, NII increases if there is increase in interest rates.'

The international Bank, provides following data regarding rate sensitive assets and liabilities of the bank as on 31st Mar 2022. The NIL spread in percentage terms for the bank is 1.5%.

Time of Buckets	Assets	Liability	Gap	Cumulative Gap
1 - 28 days	800	1000	-200	-200
29 Days to 3 Months	650	550	100	-100
3 - 6 Months	2700	3150	-450	-550
6 - 12 Months	450	600	-150	-700
1 - 3 Years	150	300	-150	-850
3 - 5 Years	450	200	250	-600
Over 5 Years	1000	200	800	200
Non- sensitive	300	500	-200	0
Total	6500	6500	0	0

Using the details given above, answer the following questions.

- If interest rate falls by 25 bps, in the first-time bucket, the likely impact on the NII for the bank shall be:
 - +15.50 Crores
 - +0.50 Crores**
 - Overall impact will be NIL
 - +0.05 Crores

2. In terms of extant RBI guidelines on ALM, the maximum non-sensitive assets, a bank can have in percentage to total assets is----,
 - (a) 25%
 - (b) 10%
 - (c) **No such restriction by RBI**
 - (d) 20%
3. The total rate sensitive assets for the banks Is
 - (a) ₹ 6,500 Crores
 - (b) **₹ 6,200 Crores**
 - (c) ₹ 6,300 Crores
 - (d) ₹ 6,000 Crores
4. In rising interest scenario, the bank will have an impact of interest rate changes on NU:
 - (a) **Favourable**
 - (b) Adverse
 - (c) Insufficient Input
 - (d) Neutral

Explanation :

Question -1 : ₹ 200 Crores \times 0.25% = 0.50 Crores i.e., gain of 0.5 Crores. When gap is negative bank gains when interest rate goes down.

Question -2 : There is no such ceiling prescription of RBI.

Question -3 : ₹ 6,500 Crores - 5300 Crores = ₹ 6,200 Crores

Question -4 : Rate sensitive ₹ 6,200 Crores and Liabilities ₹ 6,000 Crores. Bank is Asset Sensitive. Hence in a rising scenario, the bank gains and in declining, the bank loses.

Liquidity Risk Management:

Measuring and managing liquidity needs are vital for effective operation of commercial banks. By assuring a bank's ability to meet its liabilities as they become due, liquidity management can reduce the probability of an adverse situation developing. The importance of liquidity transcends individual institutions, as liquidity shortfall in one institution can have repercussions on the entire system. Banks management should measure not only the liquidity positions of banks on an ongoing basis but also examine how liquidity requirements are likely to evolve under different assumptions. Experience shows that assets commonly considered as liquid like Government securities and other money market instruments could also become illiquid when the market and players are unidirectional. Therefore, liquidity has to be tracked through maturity or cash flow mismatches. For measuring and managing net funding requirements, the use of a maturity ladder and calculation of cumulative surplus or deficit of funds at selected maturity dates is adopted as a standard tool.

The time buckets, given the Statutory Reserve cycle of 14 days may be distributed as under:

1 to 14 days.

15 to 28 days.

29 days and upto 3 months.

Over 3 months and upto 6 months.

Over 6 months and upto 1 year.

Over 1 year and upto 3 years.

Over 3 years and upto 5 years.

Over 5 years.

The investments in SLR securities and other investments are assumed as illiquid due to lack of depth in the secondary market and are therefore required to be shown under respective maturity buckets, corresponding to the residual maturity. However, some of the banks may be maintaining securities in the 'Trading Book', which are kept distinct from other investments made for complying with the Statutory Reserve requirements and for retaining relationship with customers. Securities held in the 'Trading Book' are subject to certain preconditions like:

- The composition and volume are clearly defined.
- Maximum maturity/duration of the portfolio is restricted.
- The holding period not to exceed 90 days.
- Cut-loss limit prescribed.
- Defeasance periods (product-wise) i.e., time taken to liquidate the position on the basis of liquidity in the secondary market are prescribed.
- Marking to market on a daily / weekly basis and the revaluation gain/loss charged to the profit and loss account; etc.

Banks which maintain such 'Trading Books' and complying with the above standards are permitted to show the trading securities under 1-14 days, 15-28 days and 29-90 days buckets on the basis of the defeasance periods. The Board / ALCO of the banks should approve the volume, composition, holding/defeasance period, cut loss, etc. of the 'Trading Book' and copy of the policy note thereon should be forwarded to the Department of Banking Supervision, RBI.

Within each time bucket there could be mismatches depending on cash inflows and outflows. While the mismatches upto one year would be relevant since these provide early warning signals of impending liquidity problems, the main focus should be on the short-term mismatches viz., 1-14 days and 15-28 days. Banks, however, are expected to monitor their cumulative mismatches (running total) across all time buckets by establishing internal prudential limits with the approval of the Board / Management Committee. The mismatches (**negative gap**) during 1-14 days and 15-28 days in normal course may not exceed 20% of the cash outflows in each time bucket. If a bank in view of its current asset -liability profile and the consequential structural mismatches needs higher tolerance level, it could operate with higher limit sanctioned by its Board / Management Committee giving specific reasons on the need for such higher limit.

A maturing liability will be a cash outflow while a maturing asset will be a cash inflow. It would also be necessary to take into account the rupee inflows and outflows on account of forex operations. While determining the likely cash inflows / outflows, banks have to make a number of assumptions according to their asset - liability profiles. For instance, Indian banks with large branch network can (on the stability of their deposit base as most deposits are rolled-over) afford to have larger tolerance levels in mismatches in the long-term if their term deposit base is quite high. While determining the tolerance levels the banks may take into account all relevant factors based on their asset-liability base, nature of business, future strategy, etc.

In order to enable the banks to monitor their short-term liquidity on a dynamic basis over a time horizon spanning from 1-90 days, banks may estimate their short-term liquidity profiles on the basis of business projections and other commitments for planning purposes.

To Sum Up:

Liquidity is a bank's capacity to fund increase in assets and meet both expected and unexpected cash and collateral obligations at reasonable cost and without incurring unacceptable losses.

Liquidity risk for banks mainly manifests on account of the following:

- (i) Funding liquidity risk.
- (ii) Market liquidity risk.

The Basel Committee on Banking Supervision (BCBS) published "Principles for Sound Liquidity Risk Management and Supervision" in September 2008. The broad principles for sound liquidity risk management by banks cover the following areas:

- (i) Fundamental principles for the management and supervision of liquidity risk.
- (ii) Governance of liquidity risk management.
- (iii) Measurement and management of liquidity risk.
- (iv) Public disclosure.

The organisational set up for liquidity risk management should be as under:

- The Board of Directors (BoD).
- The Risk Management Committee.
- The Asset-Liability Management Committee (ALCO).
- The Asset Liability Management (ALM) Support Group.

The first step towards liquidity management is to put in place an effective liquidity risk management policy, which inter alia, should spell out the liquidity risk tolerance, funding strategies, prudential limits, system for measuring, assessing and reporting/reviewing liquidity, framework for stress testing, liquidity planning under alternative scenarios/formal contingent funding plan, nature and frequency of management reporting, periodical review of assumptions used in liquidity projection, etc.

Banks may monitor the critical ratios in respect of liquidity risk management by putting in place an internally defined limit approved by the Board for these ratios.

Problem 1.

Credit Risk

An exposure of ₹ 100 lakhs is backed by financial collateral of A+ debt security of ₹ 30 lakhs issued by others. The tenor of the exposure is 3 years. The residual maturity of the financial collateral is 2 years. Calculate Net Exposure qualifying for Capital Adequacy.

Solution:

In this case, the financial collateral is an eligible credit risk mitigant.

As the residual maturity of the collateral is less than the residual maturity of the exposure, maturity mismatch is also there. However, there is no currency mismatch.

Let us first determine the haircut of the collateral.

$$C^* = C \times (1 - H_c - H_{fx}) = 30 \times (1 - 6\% - 0\%) = 30 \times 94\% = 28.20$$

Where C^* = Haircut adjusted collateral value

C = Original collateral value

H_c = Haircut applicable to the collateral

H_{fx} = Hair cut on account of currency mismatch between collateral and exposure.

$H_{fx} = 0.08$ in all cases where this is applicable.

Let us now determine what would be the value of the haircut-adjusted collateral after adjustment on account of maturity mismatch.

$$P = C^* \times (t - 0.25) / (T - 0.25) = 28.2 \times (2 - 0.25) / (3 - 0.25) = 28.2 \times 1.75 / 2.75 = 17.95$$

Where P = Value of credit risk mitigant adjusted for maturity mismatch

C^* = value of the collateral adjusted for any haircut.

t = minimum of T and residual maturity of the credit protection expressed in years.

T = minimum of 5 years and residual maturity of the exposure expressed in years.

The adjusted collateral value is ₹ 17.95 lacs. The value of the exposure after risk mitigation would be $E = \text{Max} \{0, (\text{current value of exposure} - \text{value of the adjusted collateral for any haircut and maturity mismatch})\} = \text{Max} \{0, (100 - 17.95)\} = 82.05$

Net Exposure qualifying for Capital Adequacy is ₹ 82.05 lacs.

Problem 2.

An exposure of ₹ 100 lakhs is backed by a lien on a fixed deposit of ₹ 30 lakhs. There is no maturity mismatch. Calculate the Credit Risk mitigant.

Solution:

In this case, the credit risk mitigant is on-balance sheet netting. Hence ₹ 30 lakhs. The net exposure qualifying for Capital Adequacy is ₹ 70 lakhs after netting. Here hair cut for credit risk mitigant is zero.

Caselet-1:

Asset Liability Management

As per RBI guidelines on ALM, Capital and Reserves are to be placed in over 5 Years' Bucket, Savings Bank and Current Deposits may be classified into volatile and core portions. Savings Bank (10%) and Current (15%) Deposits are generally withdrawable on demand. This portion may be treated as volatile. While the volatile portion can be placed in the time bucket for 14 days, the Core portion may be placed in over 1-3 Years bucket. The term deposits are to be placed respective maturity buckets.

Capital	₹ 1,180 Crores.
Reserves	₹ 12,000 Crores.
Current account	₹ 1,000 Crores.
Savings Bank	₹ 4,000 Crores.
Term deposits 1-month maturity bucket	₹ 400 Crores.
1 to less than 3 months maturity bucket	₹ 800 Crores.
3 months to less than 6 months maturity bucket	₹ 1,200 Crores.

Risk Management in Banking and Insurance

6 months to less than 12 maturity bucket	₹ 2,000 Crores.
1 year to less than 3 years maturity bucket	₹ 1,200 Crores.
3 years to less than 5 years maturity bucket	₹ 600 Crores. and
Above 5 years maturity bucket	₹ 800 Crores.
Borrowing from RBI	₹ 400 Crores.

Based on the given information, answer the following questions:

- What is the amount of current account deposit that can be placed in 14 days bucket?
 - ₹ 100 Crores.
 - ₹ 150 Crores.
 - ₹ 200 Crores.
 - NIL
- What is the amount of saving bank deposit that can be placed in 14 days bucket?
 - ₹ 100 Crores.
 - ₹ 200 Crores.
 - ₹ 300 Crores.
 - ₹ 400 Crores.
- What is the amount of current account deposit that can be placed in a 1-3 years bucket?
 - ₹ 100 Crores.
 - ₹ 400 Crores.
 - ₹ 800 Crores.
 - ₹ 900 Crores.
- What is the amount of saving bank deposit that can be placed in a 1-3 years bucket?
 - ₹ 4,000 Crores.
 - ₹ 3,600 Crores.
 - ₹ 3,200 Crores.
 - ₹ 3,000 Crores.
- What is the total amount of term deposit that will be placed in various maturity buckets up to less than 12 months?
 - ₹ 2,400 Crores.
 - ₹ 2,800 Crores.
 - ₹ 3,200 Crores.
 - ₹ 4,400 Crores.

Answers:

1.	(b)	2.	(d)	3.	(d)	4.	(b)	5.	(d)
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Explanations:

- Question-1: Volatile portion of 15% to be placed in this bucket. Hence = ₹ 1,000 Crores x 15% = ₹ 150 Crores.
- Question-2: Volatile portion of 10% to be placed in this bucket. Hence = ₹ 4,000 Crores x 10% = ₹ 400 Crores.
- Question-3: Non-volatile portion of 90% to be placed in this bucket. Hence = ₹ 1,000 Crores × 90% = ₹ 900 Crores.
- Question-4: Non-volatile portion of 90% to be placed in this bucket. Hence = ₹ 4,000 Crores × 90% = ₹ 3,600 Crores.
- Question-5: ₹ 400 Crores + ₹ 800 Crores + ₹ 1,200 Crores + ₹ 2,000 Crores = ₹ 4,400 Crores.

Caselet-2:

1. A corporate client has requested the bank sanction of a term loan of ₹ 200 Crores for setting up a project. The loan will be repaid within 5 years. Due to the industry exposure ceiling, the bank is unable to undertake the exposure. Given the long-standing relationship with the customer, the bank wants to accommodate the customer. If this loan is sanctioned, to hedge the loan concentration, which of the following will be used by the bank:
 - (a) Credit Default Swap.
 - (b) Total Return Swap.
 - (c) Credit Linked Notes.
 - (d) Credit Spread Options.
2. A Corporate need a Corporate Loan of ₹ 1,000 Crores to be withdrawn immediately and availed for one year. Among other banks, Universal Bank is also approached for this. The bank is ready to sanction a loan up to ₹250 Crores (due to exposure ceiling), while the company has requested a loan of ₹ 500 Crores, as the balance part has been managed by the company, from other banks. To retain the customer, for accommodating the party to the extent of ₹ 500 Crores, which of the following will be used by the bank:
 - (a) Credit Default Swap.
 - (b) Total Return Swap.
 - (c) Credit Linked Notes.
 - (d) Credit Spread Options.

Answers:

1.	(b)	2.	(a)
----	-----	----	-----

Explanations:

- **Question-1:** In this case, the total return swap (TRS) would be appropriate. (TRS represents an off-balance sheet replication of financial assets such as a loan). The bank, after extending the loan, can arrange a TRS with a hedge fund investor. The bank in this way will receive a spread for 5 years, can retain the customer, hedge the risk of the loan and reduce the amount of regulatory capital.
- **Question-2:** The bank can sanction a loan of ₹ 500 Crores and go for a credit default swap (CDS) of ₹ 250 Crores and can sell this amount to a protection seller (particularly those banks that are at a disadvantage so

for credit risk origination is concerned)-under CDS. In this transaction, the loan will continue to be with the originating bank and will not be required to be transferred to the bank.

Caselet-3:

International Bank has provided the following information relating to its advance portfolio as of Mar 31, 2022: Total advances of ₹ 40,000 Crores. Gross NPA 9% and Net NPA 2%. Based on this information, answer the following questions:

1. Considering that all the standard loan accounts represent general advances, what is the amount of provision for standard loan accounts:
 - a) ₹ 160 Crores.
 - b) ₹ 151.90 Crores.
 - c) ₹ 145.60 Crores.
 - d) ₹ 141.50 Crores.
2. What is the provision on NPA accounts?
 - a) ₹ 3600 Crores.
 - b) ₹ 3200 Crores.
 - c) ₹ 2800 Crores.
 - d) Incomplete information. Cannot be calculated
3. What is the total amount of provisions on total advances, including the standard accounts?
 - a) ₹ 3612.30 Crores.
 - b) ₹ 2945.60 Crores.
 - c) ₹ 2840.20 Crores.
 - d) Incomplete information. Cannot be calculated
4. What is the amount of gross NPA?
 - a) ₹ 4000 Crores.
 - b) ₹ 3600 Crores.
 - c) ₹ 3200 Crores.
 - d) ₹ 2800 Crores.
5. What is the amount of net NPA?
 - a) ₹ 800 Crores.
 - b) ₹ 1000 Crores.
 - c) ₹ 1200 Crores.
 - d) Incomplete information
6. What is the provision coverage ratio for NPA?
 - a) 70%
 - b) 74.3%
 - c) 75.2%

d) 77.85

7. What is the minimum amount of provisions to be maintained by the bank to meet the provisioning coverage ratio of 70%?
- ₹ 3600 Crores.
 - ₹ 3,200 Crores.
 - ₹ 2,880 Crores.
 - ₹ 2,520 Crores.

Answers:

1.	(c)	2.	(c)	3.	(b)	4.	(b)	5.	(a)
6.	(d)	7.	(d)						

Explanations:

- **Question-1:** Standard account Total = ₹ 40,000 Crores - 9% NPA = ₹ 3,600 Crores = ₹ 40,000 Crores - ₹ 3,600 Crores = ₹ 36,400 Crores. Provision at 0.4% = ₹ 36,400 Crores x 0.4% = ₹ 145.60 Crores.
- **Question-2:** Provision on NPA = Gross NPA 9% - Net NPA 2% = 7% i.e., ₹ 40,000 Crores x 7% = ₹ 2,800 Crores.
- **Question-3:** Provision on NPA = Gross NPA 9% - Net NPA 2% = 7% i.e., ₹ 40,000 Crores x 7% = ₹ 2,800 Crores. Provision on standard account ₹ 145.60 Crores. Hence Total Provision = ₹ 2,945.60 Crores.
- **Question-4:** ₹ 40,000 Crores x 9% = ₹ 3,600 Crores.
- **Question-5:** ₹ 40,000 Crores x 2% = ₹ 800 Crores.
- **Question-6:** Total provision on NPA / Gross NPA = ₹ 2,800 Crores / ₹ 3,600 Crores = 77.8%
- **Question-7:** Gross NPA x 70% = ₹ 3,600 Crores x 70% = ₹ 2,520 Crores

Exercise

A. Theoretical Questions

⊙ Multiple Choice Questions

- Which of the following is not a type of credit risk?
 - Default risk.
 - Credit spread risk.
 - Intrinsic risk.
 - Basis risk.
- Risk of a portfolio with overexposure in the steel sector will be------.
 - More than systematic risk.
 - Equal to intrinsic risk.
 - Less than intrinsic risk.
 - None of these.
- How many accounts have suffered rating migration in the following table?

**Rating Migration of 100 A-Rated Accounts
Migration between 31.3.2021 and 31.3.2022**

Last Rating	No. of Accounts	Present Rating A++	A+	A	B+	B	C	Default
A	100	1	1	79	10	4	3	2

- 21
 - 20
 - 19
 - None of the above.
- The risk that arises due to worsening of credit quality is
 - Intrinsic risk.
 - Credit spread risk.
 - Portfolio risk.
 - Counterparty risk.
 - In order to develop our capability to actively manage our credit portfolio one must have in place the following:
 - Credit Rating Model (or models for different categories of loans and advances)
 - Develop and maintain necessary data on defaults of borrowers rating category-wise, i.e., 'Rating Migration'.
 - Both 1 and 2 are required.

- b) Only 1 is required.
 - c) Only 2 is required.
 - d) None of the above.
6. The model that combines five financial ratios using reported accounting information and equity values to produce an objective measure of borrower's financial health is-----.
- a) Altman's Z Score.
 - b) 'Credit Metrics'.
 - c) Credit Risk+.
 - d) None of the above.
7. A transaction where financial securities are issued against the cash flow generated from a pool of assets is called-----.
- a) Securitization.
 - b) Credit Default Swaps.
 - c) Credit Linked Notes.
 - d) Total Return Swaps.
8. The objective of liquidity management is to-----.
- a) Ensure profitability.
 - b) Ensure liquidity.
 - c) Either of two.
 - d) Both.
9. Banks need liquidity to-----.
- a) Meet deposit withdrawal.
 - b) Fund loan demands.
 - c) Both of them.
 - d) None of them.
10. Adequacy of a bank's liquidity position depends upon-----.
- a) Sources of funds.
 - b) Anticipated future funding needs.
 - c) Present and future earning capacity.
 - d) All of above.
11. How many BASEL Accords have been introduced as of now?
- (a) 1
 - (b) 2
 - (c) 3
 - (d) 4

Reason: There are three BASEL accords published since its inception. BASEL-I was introduced in 1988, BASEL in 2004, and the latest set of guidelines i.e., BASEL-III was introduced in 2010.

12. Who formulates BASEL guidelines?

- (a) World Bank
- (b) IMF
- (c) G20 group of governors
- (d) BCBS

Reason: BASEL guidelines are published by the Basel Committee of Banking Supervision (BCBS) based in Basel, Switzerland.

13. What is the effect on the capital requirement of a bank if it takes exposure to riskier assets?

- (a) More capital is required
- (b) Less capital is required
- (c) No change in capital requirement
- (d) None of these

Reason: A bank requires more capital to cover riskier exposures and less capital for safer assets.

14. Which of the following is/are risks face by the bank?

- (a) Credit Risk
- (b) Market Risk
- (c) Income Risk
- (d) (a) and (b)

Reason: BASEL-I guidelines initially focused only on credit risk but later introduced market risk also.

15. When did India started implementing BASEL-I guidelines?

- (a) 1988
- (b) 1990
- (c) 1991
- (d) 1992

16. Which of the following is the correct definition of Probability of default (PD)?

- (a) It measures the remaining economic maturity of the exposure
- (b) It is the estimated amount outstanding in a loan commitment if default occurs
- (c) It measures the proportion of the exposure that will be lost if Default occurs
- (d) It measures the likelihood that the borrower will default over a given time horizon

17. Which of the following is the correct definition of Loss Given Default (LGD)?

- (a) It measures the remaining economic maturity of the exposure
- (b) It is the estimated amount outstanding in a loan commitment if default occurs

- (c) It measures the proportion of the exposure that will be lost if Default occurs
 (d) It measures the likelihood that the borrower will default over a given time horizon
18. Which of the following is the correct definition of Exposure at Default (EAD)?
 (a) It measures the remaining economic maturity of the exposure
 (b) It is estimated amount outstanding in a loan commitment if default occurs
 (c) It measures the proportion of the exposure that will be lost if Default occurs
 (d) It measures the likelihood that the borrower will default over a given time horizon
19. In line with BASEL-II guidelines, what was the minimum percentage CRAR prescribed by Reserve Bank of India?
 (a) 9%
 (b) 8%
 (c) 7%
 (d) 6%

Answers:

1.	(d)	2.	(a)	3.	(c)	4.	(b)	5.	(a)
6.	(a)	7.	(a)	8.	(d)	9.	(c)	10.	(d)
11.	(c)	12.	(d)	13.	(a)	14.	(d)	15.	(d)
16.	(d)	17.	(c)	18.	(b)	19.	(a)		

⊙ **Fill in the blanks:**

- The need to replace net outflows due to unanticipated withdrawal of deposits is known as _____ risk.
- The need to compensate for non-receipt of expected inflows of funds is classified as _____ risk.
- Call risk arises due to crystallisation of _____.
- Maturity ladders enable the bank to estimate the difference between _____ and _____ in predetermined periods.
- Liquidity management methodology of evaluating whether a bank has sufficient liquid funds based on the behaviour of cash flows under the different 'what-if scenarios, is known as _____.
- The capability of a bank to withstand a net funding requirement in a bank-specific or general market liquidity crisis is denoted as _____.

[Answer: Funding Risk, Time Risk, Contingent Liabilities, Cash Inflows, Alternative Scenarios, Contingency Planning]

Sovereign Risk and Insolvency Risk

4

This Module includes:

- 4.1 Sovereign Risk Events**
- 4.2 Debt Repudiation versus Debt Rescheduling**
- 4.3 Evaluation of Sovereign Risk**
- 4.4 Mechanisms for dealing with Sovereign Risk Exposures**
- 4.5 Insolvency Risk Analysis through Capital Adequacy Ratios**

Sovereign Risk and Insolvency Risk

SLOB Mapped against the Module

To develop an understanding of the fundamental concepts of and issues associated with risk management in insurance.(CMLO 1a, b)

Module Learning Objectives

It is a sub-risk in the overall country risk in that certain state-owned entities themselves quoting their sovereign status claim immunity from any recovery proceedings of the fulfilment of any obligations they had originally agreed to, as, in these countries, the sovereign status cannot be questioned even in a court of law. Bankruptcy risk, or insolvency risk, is the likelihood that a company will be unable to meet its debt obligations. It is the probability of a firm becoming insolvent due to its inability to service its debt.

This chapter will be helpful in understanding:

- What are the Country or Sovereign Risk Events’?
- Meaning of Debt Repudiation versus Debt Rescheduling
- The evaluation process of Sovereign Risk
- Mechanisms for dealing with Sovereign Risk Exposures
- Insolvency Risk Analysis through Capital Adequacy Ratios

Introduction

4

Sovereign Risk is a sub-risk in the overall country risk in those certain state-owned entities themselves quoting their sovereign status claim immunity from any recovery proceedings of the fulfilment of any obligations they had originally agreed to, as in these countries, the sovereign status cannot be questioned even in a court of law.

Comprehensive and accurate management control of dealing room operations would cover the assessment of the above risk exposures and their management. It is to be noted that foreign exchange dealing room operations are considered to be profit centers in most of the banks and a comprehensive risk management policy will only help the management to work within the permitted loss limits. To generate profits, it is essential to have a proper risk appetite to optimize profit, through proper risk-reward trade-off.

Foreign exchange dealing operation is a highly specialized function and has to be performed by well-trained personnel. Typically, a dealing room should consist of dealing and back-office staff. The back-office staff is responsible for the follow-up of deals put through by the dealers. The need for effective control over dealing room operations is of great importance as possibilities exist for manipulation of exchange rates, dealing positions, washing names, mismatches, etc. A supreme principle of operational procedures and the area of dealing room activities is a clear functional separation of dealing, back-office accounting (processing and control), and reconciliation.

The above details on the dealing room of Treasury and its operations make it clear that the operations are crucial to any bank or institution. The contribution of exchange profit (from merchant transaction as well as trading operations) has its place in the bottom line of the bank, as such large players in major markets have deployed a large number of dealers and other staff, supported by sophisticated communication and IT systems with huge investments, to handle the forex dealing operations.

These large dealing rooms have separate desks for traders, as also for derivatives, each of which specializes in its product, and are constantly in the market to make money for the bank.

In India too, several banks have large dealing rooms and have grown to cater to various products, as permitted by the Reserve Bank of India.

Sovereign Risk Events

4.1

Sovereign Risk:

Sovereign risk is the chance that a national government's treasury or central bank will default on their sovereign debt, or else implement foreign exchange rules or restrictions that will significantly reduce or negate the worth of its forex contracts.

Sovereign risk is the probability that a foreign nation will either fail to meet debt repayments or not honour sovereign debt payments or obligations. In addition to the risk to bondholders of sovereign debt, sovereign risk is one of many unique risks that an investor faces when holding forex contracts (other such risks including currency exchange risk, interest rate risk, price risk, and liquidity risk).

Sovereign risk comes in many forms, although anyone who faces sovereign risk is exposed to a foreign country in some way. Foreign exchange traders and investors face the risk that a foreign central bank will change its monetary policy so that it affects currency trades. If, for example, a country decides to change its policy from one of a pegged currency to one of a currency float it will alter the benefits to currency traders. Sovereign risk is also made up of political risk that arises when a foreign nation refuses to comply with a previous payment agreement, as is the case with sovereign debt.

Sovereign risk also impacts personal investors. There is always risk to owning a financial security if the issuer resides in a foreign country. For example, an American investor faces sovereign risk when he invests in a South American-based company. A situation can arise if that South American country decides to nationalize the business or the entire industry, thus making the investment worthless, unless there is reasonable compensation made to the investors.

Ability to Pay:

A government's ability to pay is a function of its economic position. A country with strong economic growth, a manageable debt burden, a stable currency, effective tax collection, and favourable demographics will likely have the ability to pay back its debt. This ability will usually be reflected in a high credit rating by the major rating agencies. A country with negative economic growth, a high debt burden, a weak currency, little ability to collect taxes, and unfavourable demographics may be unable to pay back its debt.

Willingness to Pay:

A government's willingness to pay back its debt is often a function of its political system or government leadership. A government may decide not to pay back its debt, even if it has the ability to do so. Non-payment usually occurs following a change of government or in countries with unstable governments. This makes political risk analysis a critical component of investing in sovereign bonds. Rating agencies take into account willingness to pay as well as the ability to pay when evaluating sovereign credit.

History of Sovereign Risk:

In the Middle Ages, kings would often finance wars and armies by borrowing from the country's lordship or citizenry. When wars became protracted, the realm would default on its debt, leaving many lenders out in the cold. Unfortunately, due to the power of the monarchy, creditors had little recourse to recover their debts.

Sovereign risk of this nature became mutualized in the 17th century for the first time with the establishment of the Bank of England (BoE). The BoE was established as a private institution in 1694, with the power to raise money for the government through the issuance of bonds. The original purpose was to help finance the war against France. The BoE also functioned as a deposit-taking Commercial Bank. In 1844, the Bank Charter Act gave it, for the first time, a monopoly on the issuance of banknotes in England and Wales, thus taking a major step toward being a modern central bank. As a lender to the king, the BoE minimized England's sovereign risk and allowed the nation to borrow at very low interest rates for centuries to come.

Fast forward to the 1960s were a time of reduced financial restrictions. Cross-border currency began to change hands as international banks increased lending to developing countries. These loans helped developing countries increase their exports to the developed world, and large amounts of U.S. dollars were deposited across European banks.

Emerging economies were encouraged to borrow the dollars sitting in European banks to fund additional economic growth. However, most of the developing nations did not obtain the level of economic growth that the banks expected, making it impossible to repay the U.S. dollar-denominated debt borrowings. The lack of repayment caused these emerging economies to refinance their sovereign loans continuously, increasing interest rates.

Many of these developing countries owed more interest and principal than their entire Gross Domestic Products (GDPs) were worth. This led to domestic currency devaluation and decreased imports to the developed world, increasing inflation.

There are signs of similar sovereign risk in the 21st century. Greece's economy was suffering under the burden of its high debt levels, leading to the Greek government-debt crisis, which had a ripple effect across the rest of the European Union. International confidence in Greece's ability to repay its sovereign debt dropped, forcing the country to adopt strict austerity measures. The country received two rounds of bailouts, under the express demand that the country would adopt financial reforms and more austerity measures. Greece's debt was, at one point, moved to junk status. Countries receiving bailout funds were required to meet austerity measures designed to slow down the growth of public-sector debt as part of the loan agreements.

The European sovereign debt crisis was a period when several European countries experienced the collapse of financial institutions, high government debt, and rapidly rising bond Yield Spreads in government securities. The debt crisis began in 2008 with the collapse of Iceland's Banking System, then spread primarily to Portugal, Italy, Ireland, Greece, and Spain in 2009. It has led to a loss of confidence in European businesses and economies.

The crisis was eventually controlled by the financial guarantees of European countries, who feared the collapse of the euro and financial contagion, and by the International Monetary Fund (IMF). Rating agencies downgraded several Eurozone countries' debts.

Country risk arises when a foreign entity or a counterparty, private or sovereign, may be unwilling or unable to fulfill its obligations for reasons, other than the usual reasons or risks which arise about all lending and investment.

Dealing in foreign currencies and with counterparties in another country, will sometimes result in country risk. The movement of funds across international borders creates uncertainty about their receipts and payments and this uncertainty is defined as country risk. The foreign parties may be unwilling or unable to fulfill their obligations for reasons, such as the imposition of exchange and other controls by the central bank or the government regulation, on which the parties do not have any control (externalization). Country risk is considered very high in the case of

countries that are facing problems related to foreign exchange reserves, the balance of payments, management of resources, liquidity, etc.

Country risk is usually controlled by fixing country-wise exposure limits and, the risk being dynamic, it has to be constantly monitored, more particularly in case of difficult countries. The difficult countries may give high returns, as not too many countries, banks, or parties may wish to take exposure on such countries.

It would be worthwhile to mention that country risk is different from the usual credit and other risks associated with lending decisions, like credit risk, settlement risks, liquidity risk, etc.

Country risk arises when the counterparty or the borrower or the buyer is a good credit risk and does not have any desire to default, but by local laws or directives, is forbidden by the government or the central bank to honour the commitment. Sovereign risk is larger, when the counterparty is the foreign government itself or any of its agencies, and enjoys sovereign immunity under the laws, with no legal recourse to another party. Another dimension of sovereign risk could be a change in the government policies, or the change in the government itself, which could invalidate the previous contracts and thus forbid the parties concerned to complete or take recourse for the same.

While sovereign risk cannot be completely avoided when dealing with another country, it can be suitably reduced by inserting disclaimer clauses in the documentation and also making the contracts and the sovereign counterparties subject to a third country jurisdiction.

Debt Repudiation versus Debt Rescheduling

4.2

When making loans to borrowers in foreign countries, two risks need to be considered. First, the credit risk of the project needs to be examined to determine the ability of the borrower to repay the money. This analysis is based strictly on the economic viability of the project and is similar in all countries. Second, unlike domestic loans, creditors are exposed to sovereign risk.

Sovereign risk is defined as the uncertainty associated with the likelihood that the host government may not make foreign exchange available to the borrowing firm to fulfill its payment obligations. Thus, even though the borrowing firm has the resources to repay, it may not be able to do so because of actions beyond its control. Thus, creditors need to account for sovereign risk in their decision process when choosing to invest abroad.

Loan repudiation refers to a situation of outright default where the borrower refuses to make any further payments of interest and principal. In contrast, loan rescheduling refers to a temporary postponement of payments during which time new terms and conditions are agreed upon between the borrower and lenders. In most cases, these new terms are structured to make it easier for the borrower to repay.

The reasons why it is easier to reschedule debt in the form of bank loans than bonds, especially in the context of post-war lending in international financial markets, include:

- (a) Loans usually are made by a small group (syndicate) of banks as opposed to bonds that are held by individuals and institutions that are geographically dispersed. Even though bondholders usually appoint trustees to look after their interests, it has proven to be much more difficult to approve renegotiation agreements with bondholders in contrast to bank syndicates.
- (b) The group of banks that dominate lending in international markets is limited and hence able to form a cohesive group. This enables them to act in a unified manner against potential defaults by countries.
- (c) Many international loans, especially those made in the post-war period, contain cross-default clauses, which make the cost of default very expensive to borrowers. Defaulting on a loan would trigger default clauses on all loans with such clauses, preventing borrowers from selectively defaulting on a few loans.
- (d) In the case of post-war loans, governments were reluctant to allow banks to fail. This meant that they would also be actively involved in the rescheduling process by either directly providing subsidies to prevent repudiations or providing incentives to international agencies like the IMF and World Bank to provide other forms of grants and aid.

Evaluation of Sovereign Risk

4.3

There is no formula to calculate Sovereign Risk. Instead, it is measured by Sovereign Risk Rating, which measures the Default risk and is usually assigned by Global rating agencies such as Moody's, Standard and Poor (S & P), Fitch, etc. Such Sovereign ratings assess the risk by analysing the ability and willingness of a country to service its debt, which includes evaluation of relevant solvency and liquidity factors of the country, the political stability of the country in question as well as any limiting factors such as Financial Network and Social unrest in the country.

Example of Sovereign Risk Calculation:

The sovereign risk with a **hypothetical calculation example**:

Mrs. Raven working as a Sovereign Risk Analyst with UBS Risk Division is trying to analyse the Risk of five Emerging Nations based on the Debt levels, Legal System Efficiency, Expenditure Management, Fiscal Discipline, Inflation level, and Central Bank Autonomy.

She has used a five-point scale ranging from 0 (Poor) to 5 (excellent) to grade the five Emerging nations on the parameters to derive the Aggregate Score and, based on the Aggregate Score, has assigned a Sovereign Rating which captures the Sovereign Risk of these Emerging Nations.

Parameters	Emerging Nations				
	A	B	C	D	E
Debt level as a Percentage of Net Receipts	60%-80%	40%-60%	More than 100%	20%-40%	40%-60%
Legal System Efficiency	No System	Superior and highly Efficient	Moderately Adequate	Inadequate	Highly Efficient
Expenditure Management as a percentage of Net Collection	40%-60%	20%-40%	60%-80%	40%-60%	20%-40%
Fiscal Discipline	Deficit between 2%-5%	Surplus upto 3%	Deficit in the range of 0% to 2%	Surplus upto 3%	Surplus upto 3%
Inflation Level	3%	5%	4%	6%	5%
Central Bank Autonomy	Adequate	Autonomous	Independent and forward looking	Complete Autonomy in Monetary decision Making	Autonomous

Sovereign Score based on assigned grades to each Emerging Nation in each category.

	Emerging Nations				
Parameters	A	B	C	D	E
Debt level as a Percentage of Net Receipts	2	3	0	4	3
Legal System Efficiency	0	5	2	1	4
Expenditure Management as a percentage of Net Collection	3	4	2	3	4
Fiscal Discipline	1	4	2	4	4
Inflation Level	5	3	4	2	3
Central Bank Autonomy	2	3	4	5	3
Total Score	13	22	14	19	21
Sovereign Rating based on score	B	AA+	B+	A	AA

Parameter 1 :

Debt level as a percentage of Net receipts	Score
More than 100%	0
80%-100%	1
60%-80%	2
40%-60%	3
20%-40%	4
Less than 20%	5

Parameter 2 :

Legal System Efficiency	Score
No System	0
Inadequate	1
Moderately Adequate	2
Efficient	3
Highly Efficient	4
Superior and highly Efficient	5

Parameter 3 :

Expenditure Management as a percentage of Net Collection	Score
More than 100%	0
80%-100%	1
60%-80%	2
40%-60%	3
20%-40%	4
Less than 20%	5

Parameter 4 :

Fiscal Discipline	Score
Highly Deficit in excess of 5 %	0
Deficit between 2% to %%	1
Deficit in the range of 0% to 2%	2
Surplus upto 1%	3
Surplus upto 3%	4
Surplus beyond 3%	5

Parameter 5 :

Inflation Level	Score
10%	0
8%	1
6%	2
5%	3
4%	4
3%	5

Parameter 6 :

Central Bank Autonomy	Score
No Autonomy	0
Inadequate	1
Adequate	2
Autonomous	3
Independent and forward looking	4
Complete Autonomy in Monetary Decision	5

Advantages:

It enables easy comparison between different countries and allows an investor to understand and appreciate the risk and reward associated with investing in a particular country and industry. In short, it enables cross-country and across different time frame comparisons.

Ratings based on such risk act as an essential benchmark for a country to showcase its competitiveness over other countries to promote itself as an investment destination in front of Foreign Investors

Disadvantages:

It follows a herd mentality, which means that ratings based on Country Risk are usually impacted by converging practice. If one developing country is downgraded, others were also downgraded due to the interconnected, globalized world.

Country Risk indirectly impacts the ability of the corporate in that country and impacts their ability to raise cheap foreign borrowing, which directly affects their profitability. A high Sovereign Risk is perceived by foreign Investors as Risky and requires a higher premium, which will increase the cost of borrowing for companies within that country.

This usually is not exhibited in the Sovereign ratings until it's too late (the country might have defaulted). This is due to the inherent vested interest of the government of various countries to ensure their ratings are higher and the Rating Agency's incentive to accommodate the states (which are its clients).

It is primarily based on Historical data points and analysing the same to infer future events and, as such, lacks a lot of objectivity.

Mechanisms for Dealing with Sovereign Risk Exposures

4.4

The global financial crisis has brought the relationship between banks and their sovereigns, the sovereign-bank nexus, to the center stage of the economic policy debate.

1. In several countries, banking crises led to sharp increases in public debt, reflecting direct bailouts and emergency fiscal stimuli. In others, fiscal distress and the associated widening in sovereign spreads hit bank balance sheets, which in turn further complicated the fiscal situation. The euro area sovereign debt crisis has provided several examples of such spirals.
2. But the relationship between banking systems and their governments is not limited to currency unions. It is a prevalent feature of modern economies.

Banks and governments are important economic actors and it is not surprising that their health is intertwined. During banking crises, for instance, economic activity suffers and so does the government's fiscal position. During fiscal crises, in turn, governments adopt austerity measures that, at least in the short term, depress economic activity, hurting the banking system via higher default rates and lower demand for credit.

The financial health of banks and sovereigns is intertwined in a "sovereign-bank nexus" that may multiply and accelerate vulnerabilities in each sector, and lead to adverse feedback loops. Increasing resilience requires reducing the likelihood of severe stress in each sector, as well as lowering the potency of the nexus. However, designing effective reforms requires a clear understanding of the interaction between and the magnitude of the different channels that give rise to the nexus.

First, banks and sovereigns are linked by multiple interacting channels:

- (1) the sovereign-exposure channel (banks hold large amounts of sovereign debt).
- (2) the safety net channel (banks are protected by government guarantees), and
- (3) the macroeconomic channel (the health of banks and governments affect and is affected by economic activity).

Evidence suggests that all three channels are relevant.

Second, policies aimed at weakening the nexus should be designed from a holistic point of view. Measures targeting one channel may have undesired consequences for others (and thus could be counterproductive). In a related vein, because of the systemic nature of banks and sovereigns, the nexus can be weakened but not completely severed. Policies should be designed to acknowledge this constraint.

Third, stronger balance sheets and governance of banks and sovereigns may not sever the nexus, but they will reduce its relevance. Larger fiscal buffers and better management of public debt improve debt sustainability and reduce the risk of sovereign-related bank distress. Larger capital buffers and better prudential frameworks strengthen banks and reduce the risk of bank-induced sovereign distress.

Fourth, policies that discourage banks from holding excessive amounts of sovereign bonds, such as positive risk weights or limits on exposures, can improve financial stability and market efficiency. But they should be designed to minimize their procyclical effects. Further, banks hold some sovereign bonds as a natural feature of the financial system, so calibration should consider the benefits and costs of smaller holdings. Additional disclosure of sovereign holdings would strengthen market discipline.

Fifth, limits on public guarantees and private loss-sharing arrangements for bank resolution may reduce excessive risk-taking (ex-ante) and the direct fiscal cost of bank resolution (ex-post). Efforts to “end too-big-to-fail” go in the right direction. However, simply limiting government backstops and safety nets could worsen an eventual banking crisis and increase its indirect fiscal and economic costs. Reforms of safety net arrangements should start with a sound resolution framework with broad resolution powers and tools, effective cross-border cooperation, and robust early intervention powers.

Sixth, there is an international dimension to the sovereign-bank nexus. In theory, the nexus would be weakened if banks were fully diversified across countries and had access to a supra-national safety net. However, because the latter is missing, cross-border diversification should not lead to complacency as bank exposures (and thus the strength of the nexus) can change quickly during crises. The lack of effective arrangements for cross-border resolution complicates the matter.

Insolvency Risk Analysis through Capital Adequacy Ratios

4.5

Both the capital adequacy ratio and the solvency ratio provide ways to evaluate a company's debt versus its revenue situation. However, the capital adequacy ratio is usually applied specifically to evaluating banks, while the solvency ratio metric can be used for evaluating any type of company.

Liquidation Risk:

Liquidation in finance and economics is the process of bringing a business to an end and distributing its assets to claimants. It is an event that usually occurs when a company is insolvent, meaning it cannot pay its obligations when they are due. As company operations end, the remaining assets are used to pay creditors and shareholders, based on the priority of their claims. General Partners are subject to liquidation.

The term liquidation may also be used to refer to the selling of poor-performing goods at a price lower than the cost to the business, or at a price lower than the business desires.

Bankruptcy risk, or insolvency risk, is the likelihood that a company will be unable to meet its debt obligations. It is the probability of a firm becoming insolvent due to its inability to service its debt. Many investors consider a firm's bankruptcy risk before making equity or bond investment decisions. Firms with a high risk of bankruptcy may find it difficult to raise capital from investors or creditors.

Credit agencies such as Moody's and Standard & Poor's attempt to assess bankruptcy risk by producing bond ratings as well as rating the issuers.

A firm can fail financially because of cash flow problems resulting from inadequate sales and high operating expenses. To address the cash flow problems, the firm might increase its short-term borrowings. If the situation does not improve, the firm is at risk of insolvency or bankruptcy.

In essence, insolvency occurs when a firm cannot meet its contractual financial obligations as they come due. Obligations might include interest and principal payments on debt, payments on accounts payable, and income taxes.

More specifically, a firm is **technically insolvent** if it cannot meet its current obligations as they come due, even though the value of its assets exceeds the value of its liabilities. A firm becomes **legally insolvent** if the value of its assets is less than the value of its liabilities. A firm is finally considered to be **bankrupt** if it is unable to pay its debts and files a bankruptcy petition.

Solvency is often measured with a liquidity ratio called the current ratio, which compares current assets (including cash on hand and any assets that could be converted into cash within 12 months, such as inventory, receivables, and supplies) and current liabilities (debts that are due within the next 12 months, such as interest and principal payments on debt serviced, payroll, and payroll taxes).

There are many ways to interpret the current ratio. Some, for example, consider a 2:1 current ratio as solvent,

showing that the firm's current assets are twice its current liabilities. In other words, the firm's assets would cover its current liabilities about two times.

How do you know if a company is at risk of going bankrupt? The following are often signs of trouble:

- Dwindling cash and/or losses, especially if they represent a trend
- Abrupt dismissal of the company auditor
- Dividend cuts or the elimination of dividends
- Departure of senior management
- Insider selling, especially large or frequent transactions following negative news
- Selling off a product line to raise cash
- Cuts in perks like health benefits or pensions

How Companies Reduce Insolvency Risk: No company becomes insolvent overnight. If it looks like your business is headed in that direction, take steps to protect it.

- Focus on cash flow. Among other actions, this may involve invoicing promptly, recovering debts, renegotiating credit limits, renegotiating contracts with suppliers, selling assets (if necessary), and reducing the amount of cash tied up in stock.
- Reduce business expenses. Possibilities include cutting advertising and/or research and development, paying off debts earlier to lower interest on debt, reducing staff overtime, delaying the purchase of new or leased equipment.
- Keep your creditors in the loop. Discuss any problems you are having with payments and be ready to negotiate and compromise.
- Get good financial and legal advice. Consult the company's accountant and lawyer, who should already be familiar with your business.

Bankruptcy Protection

When a public company is unable to meet its debt obligations and files for protection under bankruptcy, it can reorganize its business in an attempt to become profitable, or it can close its operations, sell off its assets, and use the proceeds to pay off its debts (a process called liquidation).

In a bankruptcy, the ownership of the firm's assets transfers from the stockholders to the bondholders. Because bondholders have lent the firm money, they will be paid before stockholders, who have an ownership stake.

The Capital Adequacy Ratio:

Also known as the capital to risk assets ratio, the capital adequacy ratio (CAR) essentially measures the financial risk that examines the available capital of a bank about extended credit. It expresses a percentage of the bank's credit exposures weighted by risk.

Regulators track the progress of a bank's CAR to ensure that the bank can withstand significantly -but not unreasonable- losses or fluctuation in revenues. The ratio's primary function is to effectuate efficient and stable financial systems.

The CAR measures two types of capital differentiated by tiers. The first tier involves capital that can be used to absorb loss without requiring a bank to stop trading. The second tier involves capital that can absorb the loss if the

bank is forced to liquidate. The calculation for the capital adequacy ratio adds the total of both tiers, and that figure is then divided by the company's risk-weighted assets.

International Bank has paid up capital of ₹ 200 Crores, free reserves of ₹ 600 Crores, provisions and contingencies reserves ₹. 400 Crores, Revaluation Reserve of ₹ 600 Crores, Perpetual non-Cumulative Preference Shares of ₹ 800 Crores, and Subordinated Debt of ₹ 600 Crores. The Risk Weighted Assets for Credit and Operational Risk are ₹ 20,000 Crores and for-Market Risk ₹ 8,000 Crores.

Based on the above information, answer the following question:

1. What is the amount of Tier-1 capital?
 - a) ₹ 1,800 Crores
 - b) ₹ 1,600 Crores
 - c) ₹ 1,500 Crores
 - d) ₹ 1,220 Crores
2. Calculate the amount of Tier-2 capital:
 - a) ₹ 1,800 Crores
 - b) ₹ 1,600 Crores
 - c) ₹ 1,500 Crores
 - d) ₹ 1,220 Crores
3. Calculate the amount of fund:
 - a) ₹ 1,790 Crores
 - b) ₹ 2,510 Crores
 - c) ₹ 2,820 Crores
 - d) ₹ 3,350 Crores
4. What is the capital adequacy ratio of the bank?
 - a) ₹ 9%
 - b) ₹ 9.65%
 - c) ₹ 10.05%
 - d) ₹ 10.07%
5. What is amount of minimum capital to support credit and operational risk?
 - a) ₹ 1,800 Crores
 - b) ₹ 1,900 Crores
 - c) ₹ 2,000 Crores
 - d) ₹ 2,500 Crores
6. What is the amount of minimum Tier 1 and Tier 2 to support the credit and operational risk?
 - a) ₹ 1,800 Crores ₹ 1,800 Crores

- b) ₹ 1,200 Crores ₹ 1,800 Crores
 c) ₹ 900 Crores ₹ 900 Crores
 d) ₹ 600 Crores ₹ 900 Crores
7. What is the amount of Tier-1 capital fund, to support Market Risk?
 a) ₹ 900 Crores
 b) ₹ 700 Crores
 c) ₹ 500 Crores
 d) ₹ 370 Crores
8. What is the amount of Tier-2 capital fund, to support Market Risk?
 a) ₹ 900 Crores
 b) ₹ 700 Crores
 c) ₹ 500 Crores
 d) ₹ 320 Crores

Explanations:

Question-1: Tier-1 = Capital + Free Reserves + Perpetual non-cumulative preference shares = ₹ 200 Crores + ₹ 600 Crores + ₹ 800 Crores = ₹ 1,600 Crores.

Question-2: Tier II = (Provisions and Contingencies Reserves Maximum 1.25% of Risk Weighted Assets) + (Revaluation Reserve at 55% Discount) + (Subordinated Debts)
 = ₹ 350 Crores + ₹ 270 Crores (₹ 600 Crores x 45%, at 55% discount) + ₹ 600 Crores = ₹ 1,220 Crores.

Question-3: Tier-1 = Capital + Free Reserves + Perpetual Non-cumulative Preference Shares = ₹ 200 Crores + ₹ 600 Crores + ₹ 800 Crores = ₹ 1,600 Crores

Tier II = (Provisions and Contingencies Reserves Maximum 1.25% of Risk Weighted Assets) + (Revaluation Reserve at 55% Discount) + (Subordinated Debts)
 = ₹ 350 Crores + ₹ 270 Crores (₹ 600 Crores x 45%, at 55% discount) + ₹ 600 Crores = ₹ 1,220 Crores.

Total Capital Fund = ₹ 1600 Crores + ₹ 1220 Crores = ₹ 2,820 Crores.

Question-4: ₹ 2820 Crores / ₹ 28000 Crores = 10.07%

Question-5: ₹ 20,000 Crores x 9% = ₹ 1,800 Crores.

Question-6: Tier 1 = ₹ 20,000 Crores x 4.5% = ₹ 900 Crores Tier-2 = ₹ 20,000 Crores x 4.5% = ₹ 900 Crores.

Question-7: Total Tier-1 Minus Min Tier 1 for Credit and Operational risk = ₹ 1,600 Crores - ₹ 900 Crores = ₹ 700 Crores.

Question-8: Total Tier 2 Minus Min Tier 2 for credit and operational risk = ₹ 1,220 Crores - ₹ 900 Crores = ₹ 320 Crores.

The Solvency Ratio:

The solvency ratio is a debt evaluation metric that can be applied to any type of company to assess how well it can cover both its short-term and long-term outstanding financial obligations. Solvency ratios below 20% indicate an increased likelihood of default.

Analysts favour the solvency ratio for providing a comprehensive evaluation of a company's financial situation because it measures actual cash flow rather than net income, not all of which may be readily available to a company to meet obligations. The solvency ratio is best employed in comparison to similar firms within the same industry, as certain industries tend to be significantly more debt-heavy than others.

To Sum Up:

Country risk arises when a foreign entity or a counterparty, private or sovereign, may be unwilling or unable to fulfill its obligations for reasons, other than the usual reasons or risks which arise about all lending and investment.

Dealing in foreign currencies and with counterparties in another country, will sometimes result in country risk. The movement of funds across international borders creates uncertainty about their receipts and payments and this uncertainty is defined as country risk. The foreign parties may be unwilling or unable to fulfill their obligations for reasons, such as the imposition of exchange and other controls by the central bank or the government regulation, on which the parties do not have any control (externalization). Country risk is considered very high in the case of countries that are facing problems related to foreign exchange reserves, the balance of payments, management of resources, liquidity, etc.

Country risk is usually controlled by fixing country-wise exposure limits and, the risk being dynamic, it has to be constantly monitored, more particularly in case of difficult countries. The difficult countries may give high returns, as not too many countries, banks, or parties may wish to take exposure on such countries.

It would be worthwhile to mention that country risk is different from the usual credit and other risks associated with lending decisions, like credit risk, settlement risks, liquidity risk, etc.

Country risk arises when the counterparty or the borrower or the buyer is a good credit risk and does not have any desire to default, but by local laws or directives, is forbidden by the government or the central bank to honor the commitment. Sovereign risk is larger, when the counterparty is the foreign government itself or any of its agencies, and enjoys sovereign immunity under the laws, with no legal recourse to another party. Another dimension of sovereign risk could be a change in the government policies, or the change in the government itself, which could invalidate the previous contracts and thus forbid the parties concerned to complete or take recourse for the same.

While sovereign risk cannot be completely avoided when dealing with another country, it can be suitably reduced by inserting disclaimer clauses in the documentation and also making the contracts and the sovereign counterparties subject to a third country jurisdiction.

Exercise

A. Theoretical Questions

• Multiple Choice Questions

1. A sovereign credit rating is the credit rating of a, _____ i.e., a national government.
 - (a) Sovereign entity.
 - (b) Multinational company.
 - (c) Banks.
 - (d) Firm.
2. The risk that a government may default on its debt obligation _____.
 - (a) Political risk.
 - (b) Sovereign risk.
 - (c) Transfer risk.
 - (d) Transaction risk.
3. A floating exchange rate are _____.
 - (a) Is determined by the national governments involved.
 - (b) Remains extremely stable over a long period.
 - (c) Is determined by the actions of central banks.
 - (d) Is allowed to vary accordingly to market forces.
4. Sovereign risk can be managed by suitable _____ clauses in the documentation and also by subjecting such sovereign entities to _____ jurisdiction.
 - (a) Disclaimer.
 - (b) Third Country.
 - (c) Both of them.
 - (d) None of the above.
5. In India, settlement risk is largely mitigated by settlements through _____.
 - (a) Clearing Corporation of India (CCIL).
 - (b) FIMMDA.
 - (c) Both of the above.
 - (d) None of the above.
6. Financial distress can be best described by which of the following situations in which the firm is forced to take corrective action.
 - (a) Cash payments are delayed to creditors.

- (b) The market value of the stock declines by 10%.
 - (c) The firm's operating cash flow are insufficient to pay current obligations.
 - (d) Cash distributions are eliminated because the board of directors considers the surplus account to be low.
7. Insolvency can be defined as-----.
- (a) Not having cash.
 - (b) Being illiquid.
 - (c) An inability to pay one's debts.
 - (d) An inability to increase one's debts.
8. Financial restructuring can occur as:
- (a) A private workout.
 - (b) An employee buy-out.
 - (c) A bankruptcy reorganization.
 - (d) Both A and C.
 - (e) Both B and C.
9. Bankruptcy reorganizations are used by management to:
- (a) Forestall the inevitable liquidation in all cases.
 - (b) Provide time to turn the business around.
 - (c) Allow the courts time to set up an administrative structure.
 - (d) All of the above.
 - (e) None of the above.
10. If a firm has a stock-based insolvency in both book and market value terms and liquidates:
- (a) The payoff will not be 100% to all investors.
 - (b) The unsecured creditors are likely to get less than full value.
 - (c) The equity holders typically should receive nothing.
 - (d) All of the above.
11. A sovereign credit rating is the credit rating of a, _____ i.e., a national government
- (a) Sovereign entity
 - (b) Multinational company
 - (c) Banks
 - (d) Firm
12. The risk that a government may default on its debt obligation _____
- (a) Political risk

- (b) Sovereign risk
 - (c) Transfer risk
 - (d) Transaction risk
13. ____ risk arises if a country suddenly suspends or imposes a moratorium on foreign payments because of Balance of payments or other problems.
- (a) Mismatch risk
 - (b) Transaction risk
 - (c) Open position risk
 - (d) Sovereign risk

Answers:

1.	(a)	2.	(b)	3.	(d)	4.	(c)	5.	(a)
6.	(c)	7.	(c)	8.	(d)	9.	(b)	10.	(d)
11.	(a)	12.	(b)	13.	(d)				

Operational Risk and Off-Balance Sheet Risk

5

This Module includes:

- 5.1 Operational Risk-Identification and Assessment, Basel Norms.**
- 5.2 Monitoring and Mitigating Operational Risk.**
- 5.3 Off-Balance Sheet Risk Exposures.**
- 5.4 Loan Commitments.**
- 5.5 Commercial Letters of Credit, Letters of Undertaking, and Bank Guarantee.**
- 5.6 Derivatives.**
- 5.7 Deposit Insurance.**
- 5.8 Nature of Off-Balance Sheet Risks.**

Operational Risk and Off-Balance Sheet Risk

SLOB Mapped against the Module

To develop a detail understanding of the general structure and administration of an insurance company to better identify the sources of risk and categorise various types of risks. (CMLO 1c)

Module Learning Objectives

Being a critical area of operations, operational risk is another important risk that should be managed by a dealing room. It may occur due to deficiencies in information systems or internal control or human errors or other infrastructure problems that could lead to unexpected losses.

Off-balance sheet exposures are contingent. Where banks issue guarantees, committed or backup credit lines, letters of credit, etc., banks face payment obligations contingent upon some event. Derivatives are off-balance-sheet market exposures. They may be swaps, futures, forward contracts, foreign currency contracts, options, etc. Contingent exposure may become a fund-based exposure

This chapter would help in understanding:

- ⦿ Meaning of Operational Risk.
- ⦿ Classification of Operational Risks.
- ⦿ Management of Operational Risks.
- ⦿ Measurement Approaches to Operational Risks.
- ⦿ Integrated Risk.
- ⦿ Issues in Integrated Risk Management.
- ⦿ Off-Balance Sheet exposures of the Banks like Bank Guarantees, Letters of Credit.

“Operational risk has been defined by the Basel Committee on Banking Supervision as the risk of loss resulting from inadequate or failed internal processes, people and systems or external events. This definition includes legal risk but excludes strategic and reputational risk. This definition is based on the underlying causes of operational risk. It seeks to identify why a loss happened and at the broadest level includes the breakdown by four causes: people, processes, systems and external factors”.

The Basel Committee has identified the following types of operational risk events as having the potential to result in substantial losses:

- **Internal fraud.** For example, intentional misreporting of positions, employee theft, and insider trading on an employee's account.
- **External fraud.** For example, robbery, forgery, cheque kiting, and damage from computer hacking.
- **Employment practices and workplace safety.** For example, worker's compensation claims, violation of employee health and safety rules, organized labour activities, discrimination claims, and general liability.
- **Clients, products, and business practices.** For example, fiduciary breaches, misuse of confidential customer information, improper trading activities on the bank's account, money laundering, and sale of unauthorized products.
- **Damage to physical assets.** For example, terrorism, vandalism, earthquakes, fires, and floods.
- **Business disruption and system failures.** For example, hardware and software failures, telecommunication problems, and utility outages.
- **Execution, delivery, and process management.** For example, data entry errors, collateral management failures, incomplete legal documentation, unauthorized access is given to client accounts, non-client counterparty mis-performance, and vendor disputes.

Operational Risk – Identification and Assessment, Basel Norms

5.1

In the past, banks relied almost exclusively upon internal control mechanisms within business lines, supplemented by the audit function, to manage operational risk. While these remain important, there is a need to adopt specific structures and processes aimed at managing operational risk. Several recent cases demonstrate that inadequate internal controls can lead to significant losses for banks. The types of control break-downs may be grouped into five categories:

- Lack of Control Culture-Management's inattention and laxity in control culture, insufficient guidance, and lack of clear management accountability.
- Inadequate recognition and assessment of the risk of certain banking activities, whether on-or-off-balance sheet. Failure to recognize and assess the risks of new products and activities or update the risk assessment when significant changes occur in business conditions or environment. Many recent cases highlight the fact that control systems that function well for traditional or simple products are unable to handle more sophisticated or complex products.
- Absence / failure of key control structures and activities, such as segregation of duties, approvals, verifications, reconciliations, and reviews of operating performance.
- Inadequate communication of information between levels of management within the bank – upward, downward or cross-functional.
- Inadequate / ineffective audit/monitoring programs.

Managing Operational Risk is emerging as an important feature of sound risk management practice in modern financial markets in the wake of the phenomenal increase in the volume of transactions, high degree of structural changes, and complex technological support systems. Some of the guiding principles for banks to manage operational risks are identification, assessment, monitoring, and control of these risks.

These principles are dealt with in detail below:

Identification of operational risk:

Banks should identify and assess the operational risk inherent in all material products, activities, processes, and systems. Banks should also ensure that before new products, activities, processes, and systems are introduced or undertaken, the operational risk inherent in them is identified clearly and subjected to adequate assessment procedures.

Risk identification is paramount for the subsequent development of a viable operational risk monitoring and control system. Effective risk identification should consider both internal factors (such as the bank's structure, the nature of the bank's activities, the quality of the bank's human resources, organizational changes, and employee turnover) and external factors (such as changes in the industry and technological advances) that could adversely affect the achievement of the bank's objectives.

The first step towards identifying risk events is to list out all the activities that are susceptible to operational risk. Usually, this is carried out at several stages.

- The main business groups viz. corporate finance, trading and sales, retail banking, commercial banking,

payment, and settlement, agency services, asset management, and retail brokerage.

- ⊙ The analysis can be further carried out at the level of the product teams in these business groups, e.g., transaction banking, trade finance, general banking, cash management, and securities markets.
- ⊙ Thereafter the product offered within these business groups by each product team can be analysed, e.g., import bills, letter of credit, bank guarantee under trade finance.

After the products are listed, the various operational risk events associated with these products are recorded. An operational risk event is an incident / experience that has caused or has the potential to cause material loss to the bank either directly or indirectly with other incidents. Risk events are associated with the people, process, and technology involved with the product.

They can be recognized by:

- (i) Experience - The event has occurred in the past;
- (ii) Judgment - Business logic suggests that the bank is exposed to a risk event;
- (iii) Intuition - Events where appropriate measures saved the institution in the nick of time;
- (iv) Linked Events - This event resulted in a loss resulting from another risk type (credit, market, etc.);
- (v) Regulatory requirement – regulator requires recognition of specified events.

These risk events can be catalogued under the last tier for each of the products.

Assessment of Operational Risk:

In addition to identifying the risk events, banks should assess their vulnerability to these risk events. Effective risk assessment allows a bank to better understand its risk profile and most effectively target risk management resources. Amongst the possible tools that may be used by banks for assessing operational risk are:

- ⊙ **Self-Risk Assessment:** A bank assesses its operations and activities against a menu of potential operational risk vulnerabilities. This process is internally driven and often incorporates checklists and / or workshops to identify the strengths and weaknesses of the operational risk environment. Scorecards, for example, provide a means of translating qualitative assessments into quantitative metrics that give a relative ranking of different types of operational risk exposures. Some scores may relate to risks unique to a specific business line while others may rank risks that cut across business lines. Scores may address inherent risks, as well as the controls to mitigate them.
- ⊙ **Risk Mapping:** In this process, various business units, organizational functions, or process flows are mapped by risk type. This exercise can reveal areas of weakness and help prioritize subsequent management action.
- ⊙ **Key Risk Indicators:** Key risk indicators are statistics and/or metrics, often financial, which can provide insight into a bank's risk position. These indicators should be reviewed periodically (such as monthly or quarterly) to alert banks to changes that may be indicative of risk concerns. Such indicators may include the number of failed trades, staff turnover rates, and the frequency and/or severity of errors and omissions.

Measurement:

A key component of risk management is measuring the size and scope of the bank's risk exposures. As yet, however, there is no clearly established, single way to measure operational risk on a bank-wide basis. Banks may develop risk assessment techniques that are appropriate to the size and complexities of their portfolio, their resources, and data availability. A good assessment model must cover certain standard features. An example is the "matrix" approach in which losses are categorized according to the type of event and the business line in which the event occurred. Banks may quantify their exposure to operational risk using a variety of approaches. For example, data on a bank's historical loss experience could provide meaningful information for assessing the bank's exposure to operational risk and developing a policy to mitigate / control the risk. An effective way of making good use of this information is to establish a framework for systematically tracking and recording the frequency and severity of each loss event along with other relevant information on individual loss events. In this way, a bank can hope to

identify events that have the most impact across the entire bank and business practices that are most susceptible to operational risk. Once loss events and actual losses are defined, a bank can analyse and perhaps even model their occurrence. Doing so requires constructing databases for monitoring such losses and creating risk indicators that summarize these data. Examples of such indicators are the number of failed transactions over some time and the frequency of staff turnover within a division.

Every risk event in the risk matrix is then classified according to its frequency and severity. By frequency, the reference is to the number/ potential number (proportion) of error events that the product type / risk type point is exposed to. By severity, the reference is to the loss amount/ potential loss amount that the operational risk event is exposed to when the risk event materializes. The classification can be on any predefined scale (say 1-10, Low, Medium, High, etc.). All risk events will thus be under one of the four categories, namely high frequency-high severity, high frequency-low severity, low-frequency high severity, low frequency-low severity in the decreasing order of the risk exposure.

Potential losses can be categorized broadly as arising from “high frequency, low severity” (HFLS) events, such as minor accounting errors or bank teller mistakes, and “low frequency, high severity” (LFHS) events, such as terrorist attacks or major fraud. Data on losses arising from HFLS events are generally available from a bank’s internal auditing systems. Hence, modelling and budgeting these expected future losses due to operational risk potentially could be done very accurately. However, LFHS events are uncommon and thus limit a single bank from having sufficient data for modelling purposes. Scenario analysis can be used for filling up scarce data. Scenarios can be treated as potential future events which need to be captured in terms of their potential frequency and potential loss severity. Scenarios should be generated for all material operational risks faced by all the organizational units of the bank. An assessment of the generated scenarios is carried out by the business experts based on information such as historical losses, key risk indicators, insurance coverage, risk factors, the control environment, etc. The above assessments are subjected to data quality checks which may be based on a peer review of the estimates made by the business expert, internal audit, etc. The data can be fed into an internal model for generating economic capital requirements for operational risk.

Risk assessment should also identify and evaluate the internal and external factors that could adversely affect the bank’s performance, information, and compliance by covering all risks faced by the bank that operates at all levels within the bank. Assessment should take account of both historical and potential risk events.

Historical risk events are assessed based on:

- (i) Total number of risk events.
- (ii) Total financial reversals.
- (iii) Net financial impact.
- (iv) Exposure: Based on the expected increase in volumes.
- (v) Total number of customer claims paid out.
- (vi) IT indices: Uptime etc.
- (vii) Office Accounts Status.

The factors for assessing potential risks include:

- (i) Staff-related factors such as productivity, expertise, turnover.
- (ii) Extent of activity outsourced.
- (iii) Process clarity, complexity, changes.
- (iv) IT Indices.
- (v) Audit Scores.
- (vi) Expected changes or spurts in volumes.

Monitoring and Mitigating Operational Risk

5.2

An effective monitoring process is essential for adequately managing operational risk. Regular monitoring activities can offer the advantage of quickly detecting and correcting deficiencies in the policies, processes, and procedures for managing operational risk. Promptly detecting and addressing these deficiencies can substantially reduce the potential frequency and/or severity of a loss event.

In addition to monitoring operational loss events, banks should identify appropriate indicators that provide early warning of an increased risk of future losses. Such indicators (often referred to as early warning indicators) should be forward-looking and could reflect potential sources of operational risk such as rapid growth, the introduction of new products, employee turnover, transaction breaks, system downtime, and so on. When thresholds are directly linked to these indicators, an effective monitoring process can help transparently identify key material risks and enable the bank to act upon these risks appropriately.

The frequency of monitoring should reflect the risks involved and the frequency and nature of changes in the operating environment. Monitoring should be an integrated part of a bank's activities. The results of these monitoring activities should be included in regular management and Board reports, as should compliance reviews have been performed by the internal audit and/or risk management functions. Reports generated by (and / or for) intermediary supervisory authorities may also inform the corporate monitoring unit which should likewise be reported internally to senior management and the Board, where appropriate.

Senior management should receive regular reports from appropriate areas such as business units, group functions, the operational risk management unit, and internal audits. The operational risk reports should contain internal financial, operational, and compliance data, as well as external market information about events and conditions that are relevant to decision making. Reports should be distributed to appropriate levels of management and to areas of the bank on which areas of concern may have an impact. Reports should fully reflect any identified problem areas and should motivate timely corrective action on outstanding issues. To ensure the usefulness and reliability of these risk reports and audit reports, management should regularly verify the timeliness, accuracy, and relevance of reporting systems and internal controls in general. Management may also use reports prepared by external sources (auditors, supervisors) to assess the usefulness and reliability of internal reports. Reports should be analysed to improve existing risk management performance as well as develop new risk management policies, procedures, and practices.

Management information systems:

Banks should implement a process to regularly monitor operational risk profiles and material exposures to losses. There should be regular reporting of pertinent information to senior management and the Board of Directors that supports the proactive management of operational risk. In general, the Board of Directors should receive sufficient higher-level information to enable them to understand the bank's overall operational risk profile and focus on the material and strategic implications for the business. Towards this end, it would be relevant to identify all activities and all loss events in a bank under well-defined business lines.

Business Line Identification:

Banks have different business mixes and risk profiles. Hence the most intractable problem banks face in assessing

operational risk capital is due to this diversity. The best way to get around this intractable problem in computation is by specifying a range of operational risk multipliers for specified distinct business lines.

The following benefits are expected to accrue by specifying business lines:

- Banks will be able to crystallize the assessment processes to the underlying operational risk and the regulatory framework.
- The line managers will be aware of operational risk in their line of business.
- Confusion and territorial overlap which may be linked to subsets of the overall risk profile of a bank can be avoided.

For operational risk management, the activities of a bank may be mapped into eight business lines identified in the New Capital Adequacy Framework. The various products launched by the banks are also to be mapped to the relevant business line. Banks must develop specific policies for mapping a product or an activity to a business line and have the same documentation to indicate the criteria. The following are the eight recommended business lines.

Details and methodologies for mapping these business lines are:

1. Corporate finance.
2. Trading and sales.
3. Retail banking.
4. Commercial banking.
5. Payment and settlement.
6. Agency services.
7. Asset management.
8. Retail brokerage.

The following are the principles to be followed for business line mapping:

- (i) All activities must be mapped into the eight-level business lines in a mutually exclusive and jointly exhaustive manner.
- (ii) Any banking or non-banking activity which cannot be readily mapped into the business line framework, but which represents an ancillary function to an activity included in the framework, must be allocated to the business line it supports. If more than one business line is supported through the ancillary activity, objective mapping criteria must be used.
- (iii) The mapping of activities into business lines for operational risk management must be consistent with the definitions of business lines used for management of other risk categories, i.e., credit and market risk. Any deviations from this principle must be motivated and documented.
- (iv) The mapping process used must be documented. In particular, written business line definitions must be clear and detailed enough to allow third parties to replicate the business line mapping. Documentation must, among other things, clearly motivate any exceptions or overrides and be kept on record.
- (v) Processes must be in place to define the mapping of any new activities or products.
- (vi) Senior management is responsible for the mapping policy (which is subject to approval by the Board of Directors).
- (vii) The mapping process to business lines must be subject to independent review.

The following principles might be relevant for determining the mapping of activities into appropriate business lines:

- (i) Activities that constitute compound activities may be broken up into their components which might be related to the level activities under the eight business lines and these components of the complex activity may be assigned to the most suitable business lines, by their nature and characteristics.

- (ii) Activities that refer to more than a business line may be assigned to the most predominant business line and if no predominant business line exists, then it may be mapped to the most suitable business lines, by their nature and characteristics.

Operational Risk Loss events:

Banks must meet the following data required for internally generating operational risk measures.

- The tracking of individual internal event data is an essential prerequisite to the development and functioning of an operational risk measurement system. Internal loss data is crucial for tying a bank's risk estimates to its actual loss experience.
- Internal loss data is most relevant when it is linked to a bank's current business activities, technological processes, and risk management procedures. Therefore, the bank must have documented procedures for assessing the ongoing relevance of historical loss data, including those situations in which judgment overrides, scaling, or other adjustments may be used, to what extent it may be used, and who is authorized to make such decisions.
- Bank's internal loss data must be comprehensive in that it captures all material activities and exposures from all appropriate sub-systems and geographic locations. A bank must be able to justify that any activities and exposures excluded would not have a significant impact on the overall risk estimates. Bank may have an appropriate de minimis gross loss threshold for internal loss data collection say ₹.10,000. The appropriate threshold may vary somewhat between banks and within a bank across business lines and / or event types. However, particular thresholds may be broadly consistent with those used by the peer banks. Measuring Operational Risk requires both estimating the probability of an operational loss event and the severity of the loss.
- Banks must track actual loss data (i.e., where losses have materialized) and map the same into the relevant level category. Banks must endeavour to map the actual loss events to the concerned level. Operational risk loss would be the financial impact associated with the operational event that is recorded in the financial statement and would include for example,
 - (a) loss incurred, and
 - (b) expenditure incurred to resume normal functioning, but would not include opportunity costs and foregone revenue, etc.

However, the banks must also track the potential loss (i.e., extent to which further loss may be incurred due to the same operational risk event), near misses, attempted frauds, etc where no loss has been incurred by the bank, from the point of view of strengthening the internal systems and controls and avoiding the possibility of such events turning into actual operational risk losses in future.

- Aside from the information on gross loss amounts, the bank should collect information about the data of the event, any recoveries, as well as some descriptive information about the cause / drivers of the loss event. The level of descriptive information should be commensurate with the size of the gross loss amount.
- The bank must develop specific criteria for assigning loss data arising from an event in a centralized function (e.g., information technology, administration department, etc.) or any activity that spans more than one business line.
- External loss data-bank may also collect external loss data to the extent possible. External loss data should include data on actual loss amounts, information on the scale of business operations where the event occurred, information on causes and circumstances of the loss events or, any other relevant information. The bank develops a systematic process for determining the situations for which external data should be used and the methodologies used to incorporate the data.
- The loss data collected must be analysed loss event category and business line wise. Banks to look into the process and plug any deficiencies in the process and take remedial steps to reduce such events.

Off-Balance Sheet Risk Exposures

5.3

Off-balance sheet exposures refer to activities that are effectively assets or liabilities of a company but do not appear on the company's balance sheet. The off-balance sheet exposures in banking activities refer to activities that do not involve loans and deposits but generate fee income to the banks. The non-fund-based facilities like Issuance of letter of guarantee, letter of credit, deferred payment guarantee, letter of comfort; Investments of clients held by an investment company, etc. which are contingent are some of the examples off-balance sheet exposures of the banks.

The above-mentioned items do not appear on the institution's balance sheet until and unless they become actual assets or liabilities. Nevertheless, off-balance sheet items are detectable as they are appearing in the notes to financial statements of the organization. Generally accepted accounting principles (GAAP) require an organization to disclose these and financing arrangements in the notes to their audited financial statements.

Leasing is the oldest form of off-balance-sheet financing. Leasing an asset, allows the company to avoid showing financing of the asset from its liabilities, and lease or rent is directly shown as an expense in the Profit & Loss statement. However, the latest accounting standard is to allow fewer and fewer off-balance sheet transactions. For instance, revision to the leasing standards now requires the recordation of an asset in use for certain types of lease obligations that previously would not have appeared in the balance sheet. Only Operating leases qualify as off-balance sheet financing and financial leases are required to be capitalized on the balance sheet as per the latest Indian Accounting Standards. Special purpose vehicles or subsidiary companies are one of the routine ways of creating off the balance sheet financing exposures.

- (i) The total risk-weighted off-balance-sheet credit exposure is calculated as the sum of the risk-weighted amount of the market-related and non-market-related off-balance sheet items. The risk-weighted amount of an off-balance sheet item that gives rise to credit exposure is generally calculated using a two-step process:
 - (a) The notional amount of the transaction is converted into a credit equivalent amount, by multiplying the amount by the specified credit conversion factor or by applying the current exposure method, and
 - (b) The resulting credit equivalent amount is multiplied by the risk weight applicable to the counterparty or to the purpose for which the bank has extended finance or the type of asset, whichever is higher.
- (ii) Where the off-balance sheet item is secured by eligible collateral or guarantee, the credit risk mitigation guidelines detailed in paragraph 7 may be applied.

Non-market-related off-balance sheet items:

- (i) The credit equivalent amount about a non-market related off-balance sheet item like direct credit substitutes, trade, and performance-related contingent items and commitments with certain drawdown, other commitments, etc. will be determined by multiplying the contracted amount of that particular transaction by the relevant credit conversion factor (CCF).

- (ii) Where the non-market related off-balance sheet item is an undrawn or partially undrawn fund-based facility, the amount of undrawn commitment to be included in calculating the off-balance-sheet non-market related credit exposures is the maximum unused portion of the commitment that could be drawn during the remaining period to maturity. Any drawn portion of a commitment forms a part of the bank's on-balance sheet credit exposure.
- (iii) In the case of irrevocable commitments to provide off-balance sheet facilities, the original maturity will be measured from the commencement of the commitment until the time the associated facility expires. For example, an irrevocable commitment with an original maturity of 12 months, to issue a 6-month documentary letter of credit, is deemed to have an original maturity of 18 months. Irrevocable commitments to provide off-balance sheet facilities should be assigned the lower of the two applicable credit conversion factors. For example, an irrevocable commitment with an original maturity of 15 months (50percentt - CCF) to issue a six-month documentary letter of credit (20 percent - CCF) would attract the lower of the CCF i.e., the CCF applicable to the documentary letter of credit viz. 20 percent.
- (iv) Regarding non-market related off-balance sheet items, the following transactions with non-bank counterparties will be treated as claims on banks:
 - Guarantees issued by banks against the counter guarantees of other banks.
 - Rediscounting of documentary bills discounted by other banks and bills discounted by banks that have been accepted by another bank will be treated as a funded claim on a bank.

In all the above cases banks should be fully satisfied that the risk exposure is in fact on the other bank. If they are satisfied that the exposure is on the other bank, they may assign these exposures the risk weight applicable to banks.

Market-related off-balance sheet items:

- (i) In calculating the risk-weighted off-balance sheet credit exposures arising from market-related off-balance sheet items for capital adequacy purposes, the bank should include all its market-related transactions held in the banking and trading book which give rise to off-balance sheet credit risk.
- (ii) The credit risk on market-related off-balance sheet items is the cost to a bank of replacing the cash flow specified by the contract in the event of counterparty default. This would depend, among other things, upon the maturity of the contract and on the volatility of rates underlying the type of instrument.
- (iii) Market-related off-balance sheet items would include:
 - (a) Interest rate contracts—including single currency interest rate swaps, basis swaps, forward rate agreements, and interest rate futures;
 - (b) Foreign exchange contracts, including contracts involving gold, includes cross-currency swaps (including cross-currency interest rate swaps), forward foreign exchange contracts, currency futures, currency options;
 - (c) any other market-related contracts specifically allowed by the Reserve Bank which give rise to credit risk.
- (iv) Exemption from capital requirements is permitted for:
 - (a) Foreign exchange (except gold) contracts which have an original maturity of 14 calendar days or less; and
 - (b) Instruments traded on futures and options exchanges which are subject to daily mark-to-market and margin payments.

- (v) The credit equivalent amount of a market-related off-balance sheet item, whether held in the banking book or trading book must be determined by the current exposure method.

Current Exposure Method:

- (i) The credit equivalent amount of a market-related off-balance sheet transaction calculated using the current exposure method is the sum of current credit exposure and potential future credit exposure of these contracts.
- (ii) Current credit exposure is defined as the sum of the positive mark-to-market value of these contracts. The Current Exposure Method requires the periodical calculation of the current credit exposure by marking these contracts to market, thus capturing the current credit exposure.
- (iii) Potential future credit exposure is determined by multiplying the notional principal amount of each of these contracts irrespective of whether the contract has a zero, positive, or negative mark-to-market value by the relevant add-on factor indicated below according to the nature and residual maturity of the instrument.

Credit Conversion Factors for market-related off-balance sheet items

Residual Maturity	Conversion Factor to be applied on Notional Principal Amount	
	Interest Rate Contract (in percent)	Gold and Exchange Rate Contract (in percent)
One year or less	0.25	1.0
Over one year to five years	0.5	5.0
Over 5 years	1.5	7.5

- (iv) For contracts with multiple exchanges of principal, the add-on factors are to be multiplied by the number of remaining payments in the contract.
- (v) For contracts that are structured to settle outstanding exposure following specified payment dates and where the terms are reset such that the market value of the contract is zero on these specified dates, the residual maturity would be set equal to the time until the next reset date. In the case of interest rate contracts with remaining maturities of more than one year that meet the above criteria, the add-on factor is subject to a floor of 0.5 percent.
- (vi) No potential future credit exposure would be calculated for single currency floating / floating interest rate swaps; the credit exposure on these contracts would be evaluated solely based on their mark-to-market value.
- (vii) Potential future exposures should be based on effective rather than apparent notional amounts. If the stated notional amount is leveraged or enhanced by the structure of the transaction, banks must use the effective notional amount when determining potential future exposure. For example, a stated notional amount of USD 1 million with payments based on an internal rate of two times the BPLR would have an effective notional amount of USD 2 million.

Failed transactions:

- (i) About unsettled securities and foreign exchange transactions, banks are exposed to counterparty credit risk from trade date, irrespective of the booking or the accounting of the transaction. Banks are encouraged to develop, implement and improve systems for tracking and monitoring the credit risk exposure arising from unsettled transactions as appropriate for producing management information that facilitates action on a timely basis.

- (ii) Banks must closely monitor securities and foreign exchange transactions that have failed, starting from the day they fail for producing management information that facilitates action on a timely basis. Failed transactions give rise to a risk of delayed settlement or delivery.
- (iii) Failure of transactions settled through a delivery-versus-payment system (DvP), providing simultaneous exchanges of securities for cash, expose banks to a risk of loss on the difference between the transaction valued at the agreed settlement price and the transaction valued at current market price (i.e., positive current exposure). Failed transactions where cash is paid without receipt of the corresponding receivable (securities, foreign currencies, or gold,) or, conversely, deliverables were delivered without receipt of the corresponding cash payment (non-DvP, or free-delivery) expose banks to a risk of loss on the full amount of cash paid or deliverables delivered. Therefore, a capital charge is required for failed transactions and must be calculated as under. The following capital treatment applies to all failed transactions, including transactions through recognized clearinghouses. Repurchase and reverse-repurchase agreements as well as securities lending and borrowing that have failed to settle are excluded from this capital treatment.
- (iv) For DvP Transactions-If the payments have not yet taken place five business days after the settlement date, banks are required to calculate a **capital charge** by multiplying the positive current exposure of the transaction by the appropriate factor as under. To capture the information, banks will need to upgrade their information systems to track the number of days after the agreed settlement date and calculate the corresponding capital charge.

Number of working days after the agreed settlement date	Corresponding risk multiplier (in percent)
From 5 to 15	9
From 16 to 30	50
From 31 to 45	75
46 or more	100

- (v) For non-DvP transactions (free deliveries) after the first contractual payment / delivery leg, the bank that has made the payment will treat its exposure as a loan if the second leg has not been received by the end of the business day. If the dates when two payment legs are made are the same according to the time zones where each payment is made, it is deemed that they are settled on the same day. For example, if a bank in Tokyo transfers Yen on day X (Japan Standard Time) and receives corresponding US Dollar via CHIPS on day X (US Eastern Standard Time), the settlement is deemed to take place on the same value date. Banks shall compute the capital requirement using the counterparty risk weights prescribed in these guidelines. However, if five business days after the second contractual payment / delivery date the second leg has not yet effectively taken place, the bank that has made the first payment leg will deduct from the capital the full amount of the value transferred plus replacement cost if any. This treatment will apply until the second payment/delivery leg is effectively made.

Loan Commitments

5.4

A loan commitment is an agreement by a commercial bank or other financial institution to lend a business or individual a specified sum of money. A loan commitment is useful for consumers looking to buy a home or a business planning to make a major purchase.

The loan can take the form of a single lump sum or in the case of an open-end loan commitment, a line of credit that the borrower can draw upon as needed (up to a predetermined limit).

Financial institutions make loan commitments based on the borrower's creditworthiness and if it's a secured commitment on the value of some form of collateral. In the case of individual consumers, this collateral may be a home. Borrowers can then use the funds made available under the loan commitment, up to the agreed-upon limit. An open-end loan commitment works like a revolving line of credit: When the borrower pays back a portion of the loan's principal, the lender adds that amount back to the available loan limit.

Loan commitments can be either secured or unsecured.

Secured Loan Commitment:

A secured commitment is typically based on the borrower's creditworthiness and it has some form of collateral backing it. Two examples of open-end secured loan commitments for consumers are a secured credit card—where money in a bank account serves as collateral—and a home equity line of credit (HELOC)—in which the equity in a home is used as collateral.

Because the credit limit is typically based on the value of the secured asset, the credit limit is often higher for a secured loan commitment than for an unsecured loan commitment. In addition, the loan's interest rate may be lower and the payback time may be longer for a secured loan commitment than for an unsecured one. However, the approval process typically requires more paperwork and takes longer than with an unsecured loan.

The lender holds the collateral's deed or title—or places a lien on the asset—until the loan is completely paid. Defaulting on a secured loan may result in the lender assuming ownership of and selling the secured asset, at which point they would then be responsible for using the proceeds to cover the loan.

Unsecured Loan Commitment:

A loan that doesn't have any collateral backing is primarily based on the borrower's creditworthiness. An unsecured credit card is one very basic example of an unsecured open-end loan commitment. Typically, the higher the borrower's credit score, the higher the credit limit.

However, the interest rate may be higher than on a secured loan commitment because no collateral is backing the debt. Unsecured loans typically have a fixed minimum payment schedule and interest rate. The process for acquiring this type of loan often takes less paperwork and approval time than a secured loan commitment.

Advantages and Disadvantages of Loan Commitments:

Open-end loan commitments are flexible and can be useful for paying unexpected short-term-debt obligations or covering financial emergencies. In addition, HELOCs typically have low-interest rates, which may make their payments more affordable. Secured Credit Cards can help consumers establish or rebuild their credit; paying their bills on time and keeping total credit card debt low will improve their credit scores, and in time they may be eligible for an unsecured credit card.

The downside of a secured loan commitment is that borrowers who take out too much money and are unable to repay the loan may have to forfeit their collateral. For example, this could mean losing their home. Unsecured commitments have a higher interest rate, which makes borrowing more expensive.

Commercial Letters of Credit, Letters of Undertaking and Bank Guarantee

5.5

A commercial letter of credit is a common question for business owners. A commercial letter of credit is a contractual agreement between the banks issuing the credit that authorizes another bank to make payments to the beneficiary on behalf of the customer.

Commercial Letter of Credit:

A commercial letter of credit is written on behalf of the customer and allows a different bank than the one issuing credit to make a payment to the beneficiary. In the letter, the issuing bank promises to allow draws made on the credit. The idea behind a letter of credit is similar to escrow. A bank acts as a neutral party and only releases funds after the parties meet certain requirements. In most situations, the beneficiary provides the products or services. Under a letter of credit, the issuing bank takes over from the bank's customer as the payee.

Commercial letters of credit have a longstanding history in international trade. For international matters, the letters are overseen by the International Chamber of Commerce Uniform Customs and Practice for Documentary Credits.

Protection Offered by a Commercial Letter of Credit:

A commercial letter of credit offers protection to both parties. The seller is protected because if they don't receive payment from the buyer, the bank that issued the letter of credit is then responsible for paying the seller. That means that the seller knows they will always receive some kind of payment. This is especially helpful for international deals where the buyer and seller are in different countries.

Buyers are protected because if they pay for a product or service that they don't receive, the buyer may be able to get some money back through a standby letter of credit. The payment is similar to a refund and allows the buyer to then find another company to buy the product or service from.

Types of Letters of Credit:

There are multiple kinds of letters of credit, each of which is best used in certain situations.

- A commercial letter of credit offers direct payment from the bank to the beneficiaries receiving payments.
- A revolving letter of credit lets the customer pull money from the bank in an unlimited number of transactions within a specific time frame.
- A traveller's letter of credit promises that the bank will accept drafts through accepted foreign banks.
- A confirmed letter of credit includes a second bank that guarantees the letter of credit. This bank is usually the seller's bank and is known as the confirming bank. In the case that both the issuing bank and the customer can't make payments, the confirming bank will step in to make payments. This type of arrangement is usually requested by the issuing bank in international deals.

- A standby letter of credit works as a secondary payment tool. A bank issues a standby letter of credit to show that a customer can make payments under the terms of the agreement. Both parties expect to never have to draw on this type of letter of credit; the letter is simply there to provide additional support for the customer's financial standing. However, if the customer doesn't meet their obligation, the beneficiary can provide evidence and draw on the credit.
- Standby letters of credit come with expiration dates and are used to back up monetary obligations, ensure that an advanced payment is refunded, and assure that a sales contract is completed. These types of letters are typically used to strengthen the creditworthiness of a customer. In most cases, a standby letter of credit is never actually used, especially if the customer makes payments according to the terms set by the seller.

However, if the seller wants to be paid directly and the customer can't pay, the seller can provide evidence and draw on the credit. In domestic situations, the Uniform Commercial Code states that banks have three business days to accept the evidence that payment hasn't been made to then honour the seller's draw on the credit.

Letter of Undertaking:

A Letter of Undertaking is an instrument, which allows customers of a bank, to raise short-term foreign currency from its own, or another bank's foreign branch, to repay offshore suppliers.

This short-term loan is extended to clients with the guarantee of payment within 90 to 180 days. The LoU is issued by the firm's local bank. Banks issue these letters, based on security in the form of cash or property of equal amount to be deposited at the Indian branch, which can be taken away if the client doesn't pay.

Example:

So, in layman's terms, it means if you are a customer of an Indian bank, and you need a short-term loan overseas to import something. You can go to the foreign exchange department of your bank, and ask for Letters of Undertaking. The bank will ask you for collateral, or a guarantee, either in the form of fixed deposits or assets. Now, depending on your relationship with the bank, this may be even 100% or even more, of the credit you seek.

The bank then issues an LoU. This, when given to another overseas branch of another Indian bank, would facilitate the release of the amount, in foreign currency. This amount won't come to you directly, it goes to a specific bank account of your banker back home, called a Nostro account. Then, it is your discretion, in whose favour the payment needs to be done.

There is a widely accepted provision of bank guarantees known as a letter of undertaking (LOU) under which a bank can allow its customer to raise money from another Indian bank's foreign branch in the form of short-term credit. The LOU serves the purpose of a bank guarantee for a bank's customer for making payments to its offshore suppliers in the foreign currency.

For raising the LOU, the customer (importer) is supposed to pay margin money to the bank that issues the LOU, and accordingly, they are granted a credit limit.

But in Nirav Modi's case, neither was there a credit limit nor did he ever give any margin money, reported Reuters.

Once the letter of credit is acknowledged and accepted, the lender (foreign branch of Indian bank) transfers money to the Nostro account of the bank that has issued the LoU. In this case, the Nostro account is the Punjab National Bank's account held in another bank in a foreign country to hold foreign currency.

A letter of undertaking is a letter of credit issued by one bank (let's call it Punjab National Bank) that paves way for another bank (let's call it Allahabad Bank-AB) to give money to the suppliers of Punjab National Bank's customers. As mentioned earlier, the money is transferred by AB to the supplier of PNB's customer via a Nostro account that PNB holds in AB in abroad.

The credit is ideally meant for the short-term only. In the Nirav Modi-Mehil Choksi case, the term of the loan was allegedly extended far beyond what is prescribed as per the rule book. Even the PNB and other lenders are slugging out over the loan term, which should not have been extended, says PNB, longer than 90 days.

Bank Guarantees:

Various types of guarantees are issued by the banks on behalf of their customers. Bank Guarantees (BG) is also known as Letter of Guarantees which can be broadly classified as:

- (i) Financial Guarantees and
- (ii) Performance guarantees.

Earnest money Deposit guarantee or Bid Bond Guarantee, Guarantee for Payment of Customs duty (specific or continuing), Advance Payment Guarantee (APG), Deferred Payment Guarantee (DPG), Shipping Guarantee, Performance guarantee, Retention Money guarantees, etc are some of the prominent types of guarantees issued by the banks.

A Bank Guarantee or letter of guarantee is a fee-based credit facility extended by the banks to their customers. The non-fund-based facilities are the letter of guarantee or letter of credit by the banks wherein banks get fee income. Since there is no immediate outflow of funds from the banks they are also known as the non-fund-based facility. However, in the case of a non-fund-based credit facility, the bank has to discharge the financial liability of the contract agreed to the guarantee or documentary credit, if the contract is partly or fully not performed by the customer.

Note: On a review of the extant guidelines, RBI has been decided to discontinue the practice of issuance of LoUs/LoCs for Trade Credits for imports into India by AD Category-I banks with immediate effect. Letters of Credit and Bank Guarantees for Trade Credits for imports into India may continue to be issued subject to compliance with the provisions contained Vide Department of Banking Regulation Master Circular No. DBR. No. Dir. BC.11/13.03.00/2015-16 dated July 1, 2015, on “Guarantees and Co-acceptances”, as amended from time to time.

Financial guarantees:

Financial guarantees are issued by the banks whenever a contract is awarded to their customer, who is generally a contractor of civil work or a supplier of goods, machinery, equipment by a Government Department or large industrial undertakings, the customer is under obligation to deposit cash security or earnest money as a token of due compliance of the terms and conditions of the contract. This cash security provided by the contractor or supplier is forfeited by the Government Department or the company which awarded the contract, in the event the contractor or supplier fails to comply with the terms stipulated in the sanction. The customer normally will have an option to furnish a bank guarantee instead of cash security, so that his working funds are not unnecessarily blocked. The guarantees issued by banks for the above purpose is called financial guarantee wherein the banks undertake to pay the guaranteed amount during a specified period on demand from the beneficiary. The examples of Financial Guarantee are as under.

Guarantee for Earnest money Deposit (Local Tender) / Bid Bond Guarantee (international tender):

[A bid bond guarantee is a guarantee issued by the bank to the effect that the bidder would not withdraw the bid before the expiry of bid/tender period or in case the contract is awarded to the bidder that he would comply with the terms of the tender and enter into the contract.].

Guarantee for Payment of Customs duty (specific or continuing):

A customer may require a guarantee favouring the customs department for payment of customs duty covering

import of raw materials. It means that the guarantee covers custom duty in arrears to the Customs Department by the customer up to a limit (stating maximum of amount) of guarantee undertaken by the bank.

Advance Payment Guarantee (APG):

Although Advance Payment guarantee is associated with the financial guarantee it has the inherent risk of performance guarantee. Advance payment guarantees are issued on behalf of the

- (i) Supplier of raw materials / finished goods or
- (ii) on behalf of a contractor for execution of contract when he receives the advance payment.

Since the supplier receives an advance from the purchaser for the supply of raw material or finished goods on a future date, it is a substitution of working capital funds. In the case of execution of the contract, if any one of the terms of the contract is not fulfilled, the guarantee is likely to be invoked. While accepting the request from the customer for APG limit the banker should thoroughly analyse all risk factors.

Deferred Payment Guarantee (DPG):

In the cases of purchase of capital goods/machinery where the seller offers credit to the buyer and buyer's bank guarantees the due payments to the seller. Here the seller draws drafts of different maturities on the buyer which are accepted by the buyer and co-accepted by the Buyer's bank. Thereby the buyer's bank guarantees due payment of those drafts drawn by the seller which represents the total consideration of the contract of sale / supply. The seller avails the refinance from his bank against co-accepted bills. DPG involves the substitution of the term loan. Hence procedure applicable for assessment of term loan must be followed for DPG limit viz. projection under the operating statement, Funds flow statement, DSCR, BEP, etc.

Shipping Guarantee:

A shipping guarantee is issued to the shipping company to release the goods by the shipping companies based on a bank guarantee. Shipping guarantee is issued due to the arrival of the consignment (Ship carrying the goods already arrived) but non-receipt of relative documents of title to goods.

Performance Guarantee:

Performance guarantees are issued by the banks on behalf of a Service Contractor, who has to effectually perform all the conditions of the contract between him and the department/company that awarded the contract. The bank has to discharge the financial liability of the contract agreed in the guarantee, if the contract is partly or fully not performed by the customer. Such type of guarantee issued by the bank is called a Performance Guarantee. Many a time the terms of the contract may be highly technical and the bank is generally not expected to know the technical aspects of the contract. Therefore, the bank assumes only the financial liability of the contract. Since the issuance of a performance guarantee is more complicated and riskier, before issuing performance guarantees, the bank has to ensure that the customer has sufficient experience in the line of business and he has the capacity and means to carry out the obligation under the contract.

Retention Money guarantees:

Retention money is a part of the amount payable to the contractor, is retained and payable at the end after successful completion of the contract. A retention Money guarantee is issued to ensure that retention money withheld by the beneficiary is released to the applicant (contractor) so that he gets sufficient working capital to complete the contract.

In a layman's language, derivative means profit or loss derived from something. The most common derivative instruments used in financial markets are the forward contract, options, forward rate agreement, futures contract, interest rate swaps, etc. The characteristics and value of these derivative instruments are derived from underlying assets like currencies, Interest rates, stocks indices, precious metals, bonds, stocks, etc.

The derivatives are used to hedge the various types of risks. The investors, who are disinclined to take risk purchase or sell derivatives which may occur due to fluctuations in market price at a future date. The speculators who are ready to take the risk go for buying and selling such derivatives with the hope of making more profit from such a deal. In the other words, the derivative are used to hedge the risks of investors who are risk-averse to those who are ready to take the risk to earn more profit.

Types of Forex Derivatives:

Some of the financial instruments which have their values derived from forex rates include the following derivatives:

- Currency Futures.
- Currency Options, both Vanilla and Exotics.
- Currency Exchange Traded Funds or ETFs.
- Forex Contracts for Difference or CFDs.
- Forwards.
- Currency Interest Rate Swaps.
- Spot trades.

These derivative instruments can be used to take forex-related positions on their own or in combinations.

Often, a strategic combination employing one or more of the above derivative instruments along with spot forex positions can be used by forex traders to maximize profits, minimize risks, and generally adjust their overall risk profile.

Two of the forex derivatives that are often traded on exchanges, and hence are also available to many individual forex traders, include currency futures and options.

Currency Futures Trading:

Currency futures used to be the main way that individual currency traders took positions before retail forex brokers became widely available. They trade on the floor of exchanges like the Chicago International Monetary Market or IMM.

Each currency futures contract trades for a standardized forward delivery date, often maturing every quarter, and so have similar pricing to a forward outright contract delivering on those same value dates.

Currency futures can be actively traded by being either bought or sold via the exchange they trade on. Their values are directly related to the corresponding prices prevailing in the larger OTC spot and forward forex market.

Watching currency futures trade on the floor of an exchange can be a confusing endeavour. The first thing that comes to mind is a pack of wild animals howling and making gestures at each other.

Nevertheless, the chaos is superficial at best, since almost everything happening in the trading pit is carefully orchestrated to provide instantaneous executions and fair prices for both the local traders and for off-the-floor traders.

Currency Options:

American-style currency options commonly trade on futures exchanges like the Chicago IMM, where they are options on futures.

Vanilla Currency Option Variations:

The OTC vanilla currency options market has provided some creative solutions for the needs of speculators and hedgers.

- Currency Warrant – a currency option contract traded in the OTC market and often for longer maturity dates of more than one year.
- Currency Collar – A popular option combination involving the simultaneous purchase of a call and the sale of a put, or vice versa. The strike prices are usually set out of the money and at a similar distance from the forward rate for the strategy to have no net cost. Also sometimes called a risk reversal.

Furthermore, the OTC currency options market has recently expanded to include a wide range of exotic options like:

- Average Rate Options – Have their underlying rate determined by a process that involves averaging some observed exchange rate sampled at periodic intervals.
- Average Strike Option – Have their strike prices determined by a process that involves averaging some observed exchange rate sampled at periodic intervals.
- Binary Options – Also sometimes called digital options, they provide a holder with a fixed payoff if their strike price is better than the prevailing market at expiration, for European style binaries, or at any point during their lifetime, for American style binaries.
- Knockout Options – Ceases to exist when a pre-determined trigger level trades during their lifetime.
- Knockin Options – Starts to exist when a pre-determined trigger level trades during their lifetime.
- Basket Options – These are similar to vanilla European style options, except that their strike price and their underlying rate are determined by reference to a basket of currencies for which the weighted value of the option's several component counter currencies will be computed in its base currency.
- Currency Interest rate swap: Agreement to exchange periodic payments related to interest rates between currencies. Can be fixed for floating, or floating for floating based on different indices. This group includes those swaps whose notional principal is amortized according to a fixed schedule independent of interest rates.
- Currency Swaption – an OTC option granting the buyer the right but not the obligation to enter into a currency interest rate swap. Such a swap involves a commitment between counterparties to exchange interest payment streams in different currencies for a set time frame and also to exchange the principal amounts in different currencies at a set exchange rate on the maturity date.

Forex Contracts for Difference or CFDs (Contract for Differences):

CFDs are foreign exchange agreements that are cash-settled on their maturity date. This means that just the net value of the contract, and not the principal currency amounts, will be delivered to the counterparty showing the profit at maturity.

CFDs can be traded for value spot or value on some other selected business day in the future.

Currency Interest Rate Swaps:

These products generally involve taking on some form of interest rate exposure, in addition to currency risk.

Deposit Insurance

5.7

Investors' confidence is critical to the sound and stable functioning of financial markets. A domestic safety net for ensuring investors' confidence includes mechanisms that have the following dual objectives:

- (a) Containing the disruptive consequences of financial distress once it arises (crisis management), and
- (b) by the same token, instilling confidence in the financial system to limit the risks of strains emerging in the first place (crisis presentation).

A domestic safety net, thus, covers three main elements: emergency liquidity assistance, deposit protection schemes, and exit policies. History reveals that in the absence of such safety net arrangements, financial failures impose enormous costs on individual investors and the economy as a whole. Deposit insurance is one such safety valve through which the losses of the so-called "unsophisticated" depositors of banks can be plugged, albeit to a stipulated limit, in case banks fail, and thereby help arrest the cataclysmic impact of bank runs.

Deposit insurance can substantially reduce the external diseconomies arising out of bank failures. These externalities are broad of two types:

- (i) micro-externalities and
- (ii) macro-externalities.

The micro-externalities refer to an agent and justify deposit insurance on the grounds of protecting small depositors, increasing competitive equality among different size banks, and protecting the bank as a financial intermediary performing a unique role in the economic system. The macro-externalities, on the other hand, look upon deposit insurance as a mechanism to prevent the disastrous consequences ensuing from contagious bank runs, primarily relating to the money supply and the payment system. Net currency outflows from the banking system cause unexpected variations in the aggregate stock of money, reduce the money supply and eventually settle in economic recession and subsequently depression.

One of the most important arguments for deposit insurance concerns the protection of small depositors. A 'small depositor' is conceptualized as one who generally does not fully understand bank risks, who may panic on rumours regarding a bank's solvency, and is assumed to be more adversely affected in a bank run. In such cases, deposit insurance intends to protect the 'naïve' behaviour of depositors who, no doubt, want a reasonable return, but require safety and liquidity, first and foremost. Deposit insurance, by protecting these 'unsophisticated' depositors, aims at preventing bank runs caused by rumours.

The second objective of deposit insurance is to facilitate competitive equality among banks in the sense that without an effective protection system, large banks might be considered intrinsically safer than their smaller counterparts. This might make smaller banks less lucrative, and they might not be able to compete with the larger banks. In other words, the safety net of deposit insurance helps improves competitive efficiency in the banking system.

Banks provide the payment mechanism among economic agents including banks themselves, a function so very

fundamental to the working of the economic system. Because of this, a single bank failure could have serious transmission effects involving agents in systemic risk.

Thus, thirdly, deposit insurance protects the payment system, too.

Insurance vis-à-vis Deposit Insurance:

Both deposit insurance and general insurance contracts are based on the same insurance principles. In a general insurance contract, the insurer promises to third-party beneficiaries that they will be wholly reimbursed if the parties carrying the insurance do not pay their claims.

The same principle, when applied to deposit insurance, would read as: the agency-the insurer -promises to pay depositors-third party beneficiaries-that they will be wholly reimbursed if the banks-the parties carrying the insurance contract-do not redeem deposits-pay their claims.

It is evident from this that deposit insurance uses some typical tools to protect itself against risk. It:

- (i) frames rules for the applicability of the insurance.
- (ii) collects information on the likely risks that the insured parties will impose on it.
- (iii) practices coinsurance, and
- (iv) limits the amount of insurance offered to the insured.

But deposit insurance differs from a typical insurance contract in a more fundamental sense. The nature of risks to be insured against by deposit insurance and other kinds of insurance are different. The probability of a bank failure does not belong to the same actuarial category as the probability of death, illness, fire, or car accident. In these cases, the probability of the risk to occur is determinable and hence measurable in terms of a fair premium for the insurance. In contrast, the risk of bank failure is difficult to determine, measure and price.

Nature of Off-Balance Sheet Risks

5.8

Off-balance sheet exposures refer to activities that are effectively assets or liabilities of a company but do not appear on the company's balance sheet. The off-balance sheet exposures in banking activities refer to activities that do not involve loans and deposits but generate fee income to the banks. The non-fund-based facilities like Issuance of letter of guarantee, letter of credit, deferred payment guarantee, letter of comfort; Investments of clients held by an investment company, etc. which are contingent are some of the examples off-balance sheet exposures of the banks. The above-mentioned items do not appear on the institution's balance sheet until and unless they become actual assets or liabilities. Nevertheless, off-balance sheet items are detectable as they are appearing in the notes to the financial statement of the organization. Generally accepted accounting principles (GAAP) require an organization to disclose these and financing arrangements in the notes to their audited financial statements.

Leasing is the oldest form of off-balance-sheet financing. Leasing an asset, allows the company to avoid showing financing of the asset from its liabilities, and lease or rent is directly shown as an expense in the Profit & Loss statement. However, the latest accounting standard is to allow fewer and fewer off-balance sheet transactions. For instance, revision to the leasing standards now requires the recordation of an asset in use for certain types of lease obligations that previously would not have appeared in the balance sheet. Only Operating leases qualify as off-balance sheet financing and financial leases are required to be capitalized on the balance sheet as per the latest Indian Accounting Standards. Special purpose vehicles or subsidiary companies are one of the routine ways of creating off the balance sheet financing exposures.

Banks should evolve an adequate framework for managing their exposure in off-balance-sheet products like forex forward contracts, swaps, options, etc. as a part of overall credit to individual customer relationships and subject to the same credit appraisal, limits and monitoring procedures. Banks should classify their off-balance sheet exposures into three broad categories - full risk (credit substitutes) - standby letters of credit, money guarantees, etc, medium risk (not direct credit substitutes, which do not support existing financial obligations) - bid bonds, letters of credit, indemnities and warranties and low risk - reverse repos, currency swaps, options, futures, etc.

The trading credit exposure to counterparties can be measured on a static (constant percentage of the notional principal over the life of the transaction) and a dynamic basis. The total exposures to the counterparties on a dynamic basis should be the total of

1. The current replacement cost (unrealized loss to the counterparty), and
2. The potential increase in replacement cost (estimated with the help of VaR or other methods to capture future volatilities in the value of the outstanding contracts/ obligations).

The current and potential credit exposures may be measured daily to evaluate the impact of potential changes in market conditions on the value of counterparty positions. The potential exposures also may be quantified by subjecting the position to market movements involving normal and abnormal movements in interest rates, foreign exchange rates, equity prices, liquidity conditions, etc.

To Sum Up:

The exact approach for operational risk management chosen by banks will depend on a range of factors. Despite these differences, clear strategies and oversight by the Board of Directors and senior management, a strong operational risk management culture, effective internal control and reporting, contingency planning are crucial elements for an effective operational risk management framework. Initiatives required to be taken by banks in this regard will include the following:

- The Board of Directors is primarily responsible for ensuring effective management of the operational risks in banks. The bank's Board of Directors has the ultimate responsibility for ensuring that the senior management establishes and maintains an adequate and effective system of internal controls.
- Operational risk management should be identified and introduced as an independent risk management function across the entire bank/ banking group.
- The senior management should have clear responsibilities for implementing operational risk management as approved by the Board of Directors.
- The board of directors and senior management are responsible for creating an awareness of Operational Risks and establishing a culture within the bank that emphasizes and demonstrates to all the levels of personnel the importance of Operational Risk.
- The direction for effective operational risk management should be embedded in the policies and procedures that clearly describe the key elements for identifying, assessing, monitoring, and controlling/mitigating operational risk.
- The internal audit function assists the senior management and the Board by independently reviewing the application and effectiveness of operational risk management procedures and practices approved by the Board/ senior management.
- The New Capital Adequacy Framework has put forward various options for calculating operational risk capital charge in a "continuum" of increasing sophistication and risk sensitivity and increasing complexity. Even though banks may adopt any one of these options for computing capital charge, it is intended that they will benchmark their operational risk management systems with the guidance provided in this Note and aim to move towards more sophisticated approaches.

Exercise

A. Theoretical Questions

• Multiple Choice Questions

1. Which of the following is not a type of risk in the Banking Sector?
 - a) Credit Risk.
 - b) Operational Risk.
 - c) Market Risk.
 - d) **Account Risk.**

Reason: Account Risk is Not a type of risk in the Banking Sector.

2. Operational Risk is the risk of -----.
 - a) When borrowers or counterparties fail to meet contractual obligations.
 - b) The unpredictability of equity markets, commodity prices, interest rates, and credit spreads.
 - c) Loss due to errors, interruptions, or damages caused by people, systems, or processes.
 - d) All of the above.

Reason: Operational risk is the risk of loss due to errors, interruptions, or damages caused by people, systems, or processes.

3. When the risk of losses in on- or off-balance sheet positions arising from movement in market prices, it is called as -----.
 - a) Credit Risk.
 - b) Operational Risk.
 - c) Market Risk.
 - d) Liquidity Risk.

Reason: Market risk is “the risk of losses in on and off-balance-sheet positions arising from movements in market prices”.

4. “Payments credited to the wrong account” is an example of which Risk?
 - a) Credit Risk.
 - b) Operational Risk.
 - c) Market Risk.
 - d) Liquidity Risk.

Reason: Examples of operational risk would include payments credited to the wrong account or executing an incorrect order while dealing in the markets.

5. The risk that arises from the possibility of non-payment of loans by the borrowers is known as -----.
 - a) Credit Risks.
 - b) Market Risks.
 - c) Moral Hazard.

d) Business Risk.

Reason: Credit risk is the risk that arises from the possibility of non-payment of loans by the borrowers.

6. _____ risk arises because the financial system is one intricate and connected network.

- a) Credit.
- b) Operational.
- c) Market Risk.
- d) Systemic.

Reason: Systemic risk arises because the financial system is one intricate and connected network.

7. The major component of Market risk is-----.

- a) Interest rate risk.
- b) Foreign exchange risk.
- c) Commodity risk.
- d) All of the above.

Reason: The major components of Market risk are-----.

- ⊙ Interest rate risk.
- ⊙ Foreign exchange risk.
- ⊙ Commodity risk.

8. When a bank's image and public standing is in doubt and leads to the public's loss of confidence in a bank, it is called as-----.

- a) Reputational risk.
- b) Moral Hazard.
- c) Operational risk.
- d) Market risk.

Reason: When a bank's image and public standing are in doubt and lead to the public's loss of confidence in a bank, it is called a Reputational risk.

9. Legal Risk is known as-----.

- a) When the actions can lead to the entire financial system coming to a standstill.
- b) When there is a financial loss to the bank arising from legal suits filed against the bank or by a bank for applying a law wrongly.
- c) When a bank chooses the wrong strategy or follows a long-term business strategy which might lead to its failure.
- d) When a bank's image and public standing are in doubt and leads to the public's loss of confidence in a bank.

Reason: When there is a financial loss to a bank arising from legal suits filed against the bank or by a bank for applying a law wrongly, it is called a Legal Risk.

10. _____ risk is the potential loss due to changes in the value of a bank's assets or liabilities resulting from exchange rate fluctuations.

- a) Interest rate.
- b) Equity.
- c) Foreign exchange.
- d) Commodity.

Reason: Foreign exchange risk is the potential loss due to changes in the value of a bank's assets or liabilities resulting from exchange rate fluctuations.

Answers:

1.	(d)	2.	(c)	3.	(c)	4.	(b)	5.	(a)
6.	(d)	7.	(d)	8.	(a)	9.	(b)	10.	(c)

SECTION - B

Risk Management in Insurance

Introduction to Insurance Business 6

This Module includes:

- 6.1 Definition, Concept, and Features of Insurance.**
- 6.2 Principles of Insurance.**
- 6.3 Role of Insurance towards Economic Growth.**
- 6.4 Difference between Insurance Companies and other Financial Institutions.**
- 6.5 Insurance Regulatory and Development Authority (IRDA)-Objectives, Statutory Powers, and Functions of IRDA.**

Introduction to Insurance Business

SLOB Mapped against the Module

To equip students with application-oriented knowledge to design a risk management program and various risk control and mitigation measures in insurance business.(CMLO 2a, b)

Module Learning Objectives

Insurance primarily serves the purpose of granting security against losses and damages to people. It is an agreement entered into by two parties in which one promises to protect the other from losses in return for the premium paid by the other parties. One party is the insurance company and the other one is insured. Insurance companies guarantee the insured compensation in case of any unfavourable contingency. Insured need to pay premiums to insurance companies in return for the guarantee of compensation.

This chapter would help in understanding:

- ⦿ Principles of Insurance Business.
- ⦿ How Insurance Minimises Losses of Individuals and Business Organizations.
- ⦿ What is the meaning of Diversifying the Risks through Insurance?
- ⦿ How Insurance Business Sectors Mobilise the Saving from the public.
- ⦿ How Insurance Business funds help to Capital formation of the country.
- ⦿ Role of IRDA and How Insurance is different from other Financial Institutions.

In India, insurance has a deep-rooted history. It finds mention in the writings of Manu (Manusmriti), Yagnavalkya (Dharmasastra), and Kautilya (Arthashastra). The writings talk in terms of the pooling of resources that could be re-distributed in times of calamities such as fire, floods, epidemics, and famine. This was probably a pre-cursor to modern-day insurance. Ancient Indian history has preserved the earliest traces of insurance in the form of marine trade loans and carriers' contracts. Insurance in India has evolved heavily drawing from other countries, England in particular.

1818 saw the advent of the life insurance business in India with the establishment of the Oriental Life Insurance Company in Calcutta. This Company however failed in 1834. In 1829, the Madras Equitable had begun transacting life insurance business in the Madras Presidency. 1870 saw the enactment of the British Insurance Act and in the last three decades of the nineteenth century, the Bombay Mutual (1871), Oriental (1874), and Empire of India (1897) were started in the Bombay Presidency. This era, however, was dominated by foreign insurance offices which did good business in India, namely Albert Life Assurance, Royal Insurance, Liverpool, and London Globe Insurance, and the Indian offices were up for hard competition from the foreign companies.

In 1914, the Government of India started publishing returns of Insurance Companies in India. The Indian Life Assurance Companies Act, 1912 was the first statutory measure to regulate life business. In 1928, the Indian Insurance Companies Act was enacted to enable the Government to collect statistical information about both life and non-life business transacted in India by Indian and foreign insurers including provident insurance societies. In 1938, to protect the interest of the Insurance public, the earlier legislation was consolidated and amended by the Insurance Act, 1938 with comprehensive provisions for effective control over the activities of insurers.

The Insurance Amendment Act of 1950 abolished Principal Agencies. However, there were a large number of insurance companies and the level of competition was high. There were also allegations of unfair trade practices. The Government of India, therefore, decided to nationalize the insurance business.

An Ordinance was issued on 19th January 1956 nationalizing the Life Insurance sector and Life Insurance Corporation came into existence in the same year. The LIC absorbed 154 Indian, and 16 non-Indian insurers as also 75 provident societies—245 Indian and foreign insurers in all. The LIC had a monopoly till the late 90s when the Insurance sector was reopened to the private sector.

The history of general insurance dates back to the Industrial Revolution in the west and the consequent growth of sea-faring trade and commerce in the 17th century. It came to India as a legacy of British occupation. General Insurance in India has its roots in the establishment of Triton Insurance Company Ltd., in the year 1850 in Calcutta by the British. In 1907, the Indian Mercantile Insurance Ltd was set up. This was the first company to transact all classes of general insurance business.

1957 saw the formation of the General Insurance Council, a wing of the Insurance Association of India. The General Insurance Council framed a code of conduct for ensuring fair conduct and sound business practices.

In 1968, the Insurance Act was amended to regulate investments and set minimum solvency margins. The Tariff Advisory Committee was also set up then.

In 1972 with the passing of the General Insurance Business (Nationalisation) Act, the general insurance business was nationalized with effect from 1st January 1973. 107 insurers were amalgamated and grouped into four companies, namely National Insurance Company Ltd., the New India Assurance Company Ltd., the Oriental Insurance Company Ltd, and the United India Insurance Company Ltd. The General Insurance Corporation of India was incorporated as a company in 1971 and it commences business on January 1st 1973.

This millennium has seen insurance come a full circle in a journey extending to nearly 200 years. The process of re-opening the sector had begun in the early 1990s and the last decade and more has seen it been opened up substantially. In 1993, the Government set up a committee under the chairmanship of RN Malhotra, former Governor of RBI, to propose recommendations for reforms in the insurance sector. The objective was to complement the reforms initiated in the financial sector. The committee submitted its report in 1994 wherein, among other things, it recommended that the private sector be permitted to enter the insurance industry. They stated that foreign companies be allowed to enter by floating Indian companies, preferably a joint venture with Indian partners.

Following the recommendations of the Malhotra Committee report, in 1999, the Insurance Regulatory and Development Authority (IRDA) was constituted as an autonomous body to regulate and develop the insurance industry. The IRDA was incorporated as a statutory body in April 2000. The key objectives of the IRDA include the promotion of competition to enhance customer satisfaction through increased consumer choice and lower premiums while ensuring the financial security of the insurance market.

The IRDA opened up the market in August 2000 with the invitation for application for registrations. Foreign companies were allowed ownership of up to 26%. The Authority has the power to frame regulations under Section 114A of the Insurance Act, 1938 and has from 2000 onwards framed various regulations ranging from registration of companies for carrying on insurance business to protection of policyholders' interests.

In December 2000, the subsidiaries of the General Insurance Corporation of India were restructured as independent companies and at the same time, GIC was converted into a national re-insurer. Parliament passed a bill de-linking the four subsidiaries from GIC in July 2002.

Today there are 34 general insurance companies including the ECGC and Agriculture Insurance Corporation of India and 24 life insurance companies operating in the country.

The insurance sector is a colossal one and is growing at a speedy rate of 15-20%. Together with banking services, insurance services add about 7% to the country's GDP. A well-developed and evolved insurance sector is a boon for economic development as it provides long-term funds for infrastructure development while at the same time strengthening the risk-taking ability of the country.

Definition, Concept and Features of Insurance

6.1

In day-to-day life, man is confronted with various risks. However great a genius he may be, it is impossible for him to foresee all the calamities in store for him and provide necessities for them to advance.

Many happy lives are ruined either by the untimely death of the earning member of the family or by other disastrous calamities such as floods, fire, earthquakes, war, accidents, etc., which may take a heavy toll on human life.

These risks cannot be known in advance as to when they will happen, and it is physically impossible for an individual to make provision against them by him.

Insurance is a device not to avert these risks but to mitigate their rigor on individuals. Insurance is defined as a cooperative device to spread the loss caused by a particular risk over several persons exposed to it and who agree to insure themselves against that risk.

The risk is the uncertainty of a financial loss. It should not be confused with the chance of loss which is the probable number of losses out of a given number of exposures. It should not be confused with peril which is defined as the cause of the loss, or with a hazard which is a condition that may increase the chance of loss.

Finally, risk must not be confused with the loss itself, which is the unintentional decline in or disappearance of value arising from a contingency.

Wherever there is uncertainty concerning a probable loss, there is a risk.

The risk is the uncertainty of a financial loss. It should not be confused with the chance of loss, which is the probable number of losses out of a given number of exposures.

It should not be confused with “peril,” which is defined as the cause of the loss, or with “hazard,” which is a condition that may increase the chance of loss.

Definition of Insurance:

Before fully elaborating on the definition of insurance; get familiar with the following terms;

The definition of insurance can be made from two points:

- Functional Definition and,
- Contractual Definition.

Let's get a brief idea about the two points;

Functional Definition of Insurance:

Insurance is a cooperative device to spread the loss caused by a particular risk over some persons exposed to it and who agree to insure themselves against the risk.

Thus, the insurance is;

1. A co-operative device to spread the risk;
2. The system to spread the risk over many persons who are insured against the risk;
3. The principle to share the loss of each member of the society based on the probability of loss to their risk; and
4. The method to provide security against losses to the insured.

Similarly, another definition can be given.

Insurance is a cooperative device for distributing losses falling on an individual or his family over many persons, each bearing a nominal expenditure and feeling secure against heavy loss.

Contractual Definition of Insurance:

Insurance is defined as a form of risk management primary insurance has been defined to be that in which a sum of money as a premium is paid in consideration of the insurance incurring the risk of paying a large sum upon a given contingency.

The insurance, thus, is a contract whereby;

1. A certain sum, called premium, is charged in consideration,
2. Against the said consideration, a large sum is guaranteed to be paid by the insurer who received the premium,
3. The payment will be made in a certain definite sum, i.e., the loss or the policy amount, whichever may be, and
4. The payment is made only upon a contingency.

A more specific definition can be given as follows “Insurance may be defined as a consisting one party (the insurer) agrees to pay to the other party (the insured) or his beneficiary, a certain sum upon a given contingency (the risk) against which insurance is sought.”

So, it is clear that every risk involves the loss of one or the other kind. The function of insurance is to spread this loss over many persons through the mechanism of cooperation.

The persons exposed to a particular risk cooperate to share the loss caused by that risk whenever it takes place.

Thus, the risk is not averted, but the members share the loss of its occurrence. The Significance of this fact will be clear in the following example.

The legal definition focuses on a contractual arrangement whereby one party agrees to compensate another party for losses.

The financial definition provides for the funding of the losses. In contrast, the legal definition provides for the legally enforceable contract that spells out the legal rights, duties, and obligations of all the parties to the contract.

Every risk involves the loss of one or another kind. The function of insurance is to spread the loss over many persons who agree to co-operate with each other at the time of loss.

The risk cannot be averted, but loss occurring due to a certain risk can be distributed amongst the agreed persons.

They agree to share the loss because the chances of loss, i.e., the time, and amount to a person, are unknown. Anybody may suffer a loss to a given risk, so the rest of the persons who are agreed will share the loss.

The larger the number of such persons, the easier the process of distribution of loss.

The loss is shared by them by payment of premium which is calculated on the probability of loss. In olden times, the contribution by the persons was made at the time of loss.

Insurance is also defined as a social device to accumulate funds to meet the uncertain losses arising through a certain risk to a person insured against the risk.

Features of Insurance:

From the above explanation, find the following characteristics, which are generally observed in life, marine, fire, and general insurances.

1. Sharing of Risk :

Insurance is a device to share the financial losses which might befall an individual or his family in the happening of a specified event.

The event may be the death of a breadwinner to the family in the case of life insurance, marine-perils in marine insurance, fire in fire insurance, and other certain events in general insurance, e.g., theft in burglary insurance, accident in motor insurance, etc. The loss arising from these events, if insured, is shared by all the insured in the form of a premium.

2. Co-operative Device :

The most important feature of every insurance plan is the cooperation of a large number of persons who, in effect, agree to share the financial loss arising due to a particular risk that is insured.

Such a group of persons may be brought together voluntarily or through publicity or solicitation of the agents.

An insurer would be unable to compensate for all the losses from his capital. So, by insuring or underwriting a large number of persons, he can pay the amount of loss.

Like all cooperative devices, there is no compulsion here on anybody to purchase the insurance policy.

3. Value of Risk :

The risk is evaluated before insuring to charge the share of an insured, herein called, consideration or premium. There are several methods of evaluation of risks.

If there is an expectation of more loss, a higher premium may be charged. So, the probability of loss is calculated at the time of insurance.

4. Payment at Contingency:

The payment is made at a certain contingency insured. If the contingency occurs, payment is made.

Since the life insurance contract is a contract of certainty, because the contingency, the death, or the expiry of the term will certainly occur, the payment is certain. The contingency is that the fire or the marine perils, etc., may or may not occur in other insurance contracts.

So, if the contingency occurs, payment is made. Otherwise, no amount is given to the policy-holder. Similarly, in certain policies, payment is not certain due to the uncertainty of a particular contingency within a particular period.

For example, in term insurance, payment is made only when the assured death occurs within the specified term, maybe one or two years.

Similarly, in Pure Endowment, payment is made only at the survival of the insured at the expiry of the period.

5. Payment of Fortuitous Losses:

Another characteristic of insurance is the payment of fortuitous losses. A fortuitous loss is unforeseen and unexpected and occurs as a result of chance. In other words, the loss must be accidental.

The law of large numbers is based on the assumption that losses are accidental and occur randomly.

For example, a person may slip on an icy sidewalk and break a leg. The loss would be fortuitous. Insurance policies do not cover intentional issues.

6. Amount of Payment:

The amount of payment depends on the value of loss due to the particular insured risk provided insurance is there up to that amount. In life insurance, the purpose is not to make good the financial loss suffered. The insurer promises to pay a fixed sum on the happening of an event.

If the event or the contingency takes place, the payment does fail due if the policy is valid and in force at the time of the event, like property insurance, the dependents will not be required to prove the occurring loss and the amount of loss.

It is immaterial in life insurance what was the amount of loss was at the time of contingency. But in the property and general insurances, the amount of loss and the happening of loss is required to be proved.

7. A large number of Insured Persons:

To spread the loss immediately, smoothly, and cheaply, a large number of persons should be insured. The co-operation of a small number of persons may also be insurance, but it will be limited to the smaller area.

The cost of insurance for each member may be higher.

So, it may be unmarketable. Therefore, to make the insurance cheaper, it is essential to ensure many persons or properties because the lessor would be the cost of insurance, so the lower would be the premium.

In past years, tariff associations or mutual fire insurance associations were found to share the loss at a cheaper rate. To function successfully, the insurance should be joined by a large number of persons.

Insurance is a form of risk management primarily used to hedge against the risk of potential financial loss. Again, insurance is defined as the equitable transfer of the risk of a potential loss, from one entity to another, in exchange for a premium and duty of care.

Insurance is taken against the possible financial loss caused by pure risk, speculative risk, and fundamental risk.

Pure risk is the loss or no loss with no possibility of gains, such as fire, death of a key person, the bankruptcy of a customer, and that.

The speculative risk may cause either gain or loss, such as land purchase with speculation that the value will increase due to certain reasons it reduces.

Fundamental risk arises from the economic, political, social, or natural forces acting on society. Some specific sources of fundamental risk are floods and earthquakes, inflation, and war.

Property insurance protects losses that may occur in business property already owned. This includes real property or plant, equipment, but Ming; personal property, which includes machines, office supplies, furniture and fixture, and computers; inventory; and so forth.

This field is fairly well covered by insurance. The loss of property because of dishonesty or unfaithfulness of individuals such as burglary, improper handling of money and securities by the trustees, stealing or forgery of

passing cheques, stealing or setting customer mailing list to the competitors, etc.

Moreover, other persons are likely to fail in the performance of some expected act.

A debtor may be unable to pay his or her debt. A contractor may be unable to complete a building. A supplier may be unable to furnish critical parts, or a person may buy a piece of property with a defective title.

Individuals and businesses can protect themselves from such failures of others by credit insurance, surety bonding, and title insurance.

The loss of earning power is the loss of property that will probably be acquired in the future.

It involves the wages, interest, profit, rent, royalties, and operating expenses earned by future efforts. The loss of earning power by persons may result from such events as death, illness, accident, old age, childbearing, or loss of employment. Life Insurance, health insurance, etc., cover this loss.

The earning power loss may result from the loss of property suffering the direct losses of profits through interruption of business by fire and loss of rents because of buildings remaining untended due to a windstorm.

Future expense is another type of loss that frequently results from common perils. Medical expense insurance, leasehold insurance and commercial and homeowners multi-peril insurance, etc., cover future expenses.

Legal liability for the consequences of certain acts or omissions would be a possible financial loss.

A poorly designed machine injures the operator; a salesperson is injured on defective stairs and may raise damage claims that are to be paid to the injured parties.

Many forms of insurance have been devised to protect individuals and businesses from their liability at law for injuries to persons and damage to property.

Entrepreneurs have limited resources in the beginning. Thus, the entrepreneur needs to determine what kind of insurance to purchase, how much to purchase, and from what company.

The entrepreneur should ask bankers or lawyers to select the insurance company and the agent.

Principles of Insurance

6.2

Represented in a form of policy, Insurance is a contract in which the individual or an entity gets financial protection, in other words, reimbursement from the insurance company for the damage (big or small) caused to their property.

The insurer and the insured enter a legal contract for the insurance called the insurance policy that provides financial security from future uncertainties.

In simple words, insurance is a contract, a legal agreement between two parties, i.e., the individual named insured and the insurance company called insurer. In this agreement, the insurer promises to help with the losses of the insured on the happening contingency. The insured, on the other hand, pays a premium in return for the promise made by the insurer.

The contract of insurance between an insurer and insured is based on certain principles, let us know the principles of insurance in detail.

Principles of Insurance:

The concept of insurance is risk distribution among a group of people. Hence, cooperation becomes the basic principle of insurance.

To ensure the proper functioning of an insurance contract, the insurer and the insured have to uphold the 7 principles of Insurance mentioned below:

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

Let us understand each principle of insurance with an example:

Principle of Utmost Good Faith:

The fundamental principle is that both the parties in an insurance contract should act in good faith towards each other, i.e., they must provide clear and concise information related to the terms and conditions of the contract.

The Insured should provide all the information related to the subject matter, and the insurer must give precise details regarding the contract.

Example – Jacob took a health insurance policy. At the time of taking insurance, he was a smoker and failed to disclose this fact. Later, he got cancer. In such a situation, the Insurance company will not be liable to bear the financial burden as Jacob concealed important facts.

Principle of Proximate Cause:

This is also called the principle of ‘Causa Proxima’ or the nearest cause. This principle applies when the loss is the result of two or more causes. The insurance company will find the nearest cause of loss to the property. If the proximate cause is the one in which the property is insured, then the company must pay compensation. If it is not a cause the property is insured against, then no payment will be made by the insured.

Example:

Due to a fire, a wall of a building was damaged, and the municipal authority ordered it to be demolished. While demolition the adjoining building was damaged. The owner of the adjoining building claimed the loss under the fire policy. The court held that fire is the nearest cause of loss to the adjoining building, and the claim is payable as the falling of the wall is an inevitable result of the fire.

In the same example, the wall of the building was damaged due to fire, fell due to a storm before it could be repaired, and damaged an adjoining building. The owner of the adjoining building claimed the loss under the fire policy. In this case, the fire was a remote cause, and the storm was the proximate cause; hence the claim is not payable under the fire policy.

Principle of Insurable interest:

This principle says that the individual (insured) must have an insurable interest in the subject matter. Insurable interest means that the subject matter for which the individual enters the insurance contract must provide some financial gain to the insured and also lead to a financial loss if there is any damage, destruction, or loss.

For example – The owner of a vegetable cart has an insurable interest in the cart because he is earning money from it. However, if he sells the cart, he will no longer have an insurable interest in it.

To claim the amount of insurance, the insured must be the owner of the subject matter both at the time of entering the contract and at the time of the accident.

Principle of Indemnity:

This principle says that insurance is done only for the coverage of the loss; hence insured should not make any profit from the insurance contract. In other words, the insured should be compensated the amount equal to the actual loss and not the amount exceeding the loss. The purpose of the indemnity principle is to set back the insured in the same financial position as he was before the loss occurred. The principle of indemnity is observed strictly for property insurance and does not apply to the life insurance contract.

Example – The owner of a commercial building enters an insurance contract to recover the costs for any loss or damage in the future. If the building sustains structural damages from fire, then the insurer will indemnify the owner for the costs to repair the building by way of reimbursing the owner for the exact amount spent on repair or by reconstructing the damaged areas using its authorized contractors.

Principle of Subrogation:

Subrogation means one party stands in for another. As per this principle, after the insured, i.e., the individual has been compensated for the incurred loss to him on the subject matter that was insured, the rights of the ownership of that property go to the insurer, i.e., the company.

Subrogation gives the right to the insurance company to claim the amount of loss from the third party responsible for the same.

Example – If Mr. A gets injured in a road accident, due to reckless driving of a third party, the company with which Mr. A took the accidental insurance will compensate for the loss that occurred to Mr. A and will also sue the third party to recover the money paid as claim.

Principle of Contribution:

The contribution principle applies when the insured takes more than one insurance policy for the same subject matter. It states the same thing as in the principle of indemnity, i.e. the insured cannot make a profit by claiming the loss of one subject matter from different policies or companies.

Example – A property worth ₹ 5 Lakhs is insured with Company A for ₹ 3 lakhs and with company B for ₹1 lakhs. The owner in case of damage to the property for 3 lakhs can claim the full amount from Company A but then he cannot claim any amount from Company B. Now, Company A can claim the proportional amount reimbursed value from Company B.

Principle of Loss Minimisation :

This principle says that as an owner, it is obligatory on the part of the insurer to take necessary steps to minimize the loss to the insured property. The principle does not allow the owner to be irresponsible or negligent just because the subject matter is insured.

Example: If a fire breaks out in Insured factory, Insured should take reasonable steps to put out the fire. Insured cannot just stand back and allow the fire to burn down the factory because Insured know that the insurance company will compensate for it.

Types Of Insurance:

There are two broad categories of insurance:

- Life Insurance.
- General Insurance.

Life Insurance: The insurance policy whereby the policyholder (insured) can ensure financial freedom for their family members after death. It offers financial compensation in case of death or disability.

While purchasing the life insurance policy, the insured either pays the lump-sum amount or makes periodic payments known as premiums to the insurer. In exchange, of which the insurer promises to pay an assured sum to the family if insured in the event of death or disability or at maturity.

Depending on the coverage, life insurance can be classified into the below-mentioned types:

Term Insurance : Gives life coverage for a specific period.

Whole life insurance : Offer life cover for the whole life of an individual

Endowment policy : a portion of premiums goes toward the death benefit, while the remaining is invested by the insurer.

Money back Policy : a certain percentage of the sum assured is paid to the insured in intervals throughout the term as a survival benefit.

Pension Plans : Also called retirement plans are a fusion of insurance and investment. A portion of the premiums is directed towards retirement corpus, which is paid as a lump sum or monthly payment after the retirement of the insured.

Child Plans : Provides financial aid for children of the policyholders throughout their lives.

ULIPS: Unit Linked Insurance Plans: same as endowment plans, a part of premiums goes toward the death benefit while the remaining goes toward mutual fund investments.

General Insurance: Everything apart from life can be insured under general insurance. It offers financial compensation for any loss other than death. General insurance covers the loss or damages caused to all the assets and liabilities. The insurance company promises to pay the assured sum to cover the loss related to the vehicle, medical treatments, fire, theft, or even financial problems during travel.

General Insurance can cover almost anything, and everything but the five key types of insurance available under it are:

Health Insurance: Covers the cost of medical care.

Fire Insurance: give coverage for the damages caused to goods or property due to fire.

Travel Insurance: compensates the financial liabilities arising out of non-medical or medical emergencies during travel within the country or abroad

Motor Insurance: offers financial protection to motor vehicles from damages due to accidents, fire, theft, or natural calamities.

Home Insurance: compensates for the damage caused to a home due to man-made disasters, natural calamities, or other threats.

Benefits of Insurance:

Insurance gives benefits to individuals and organizations in many ways. Some of the benefits are discussed below:

The obvious benefit of insurance is the payment of losses.

Manages cash flow uncertainty when paying capacity at the time of losses is reduced significantly.

Complies with legal requirements by meeting contractual and statutory requirements, and also provides evidence of financial resources.

Promotes risk control activity by providing incentives to implement a program of losing control because of policy requirements.

The efficient use of the insured's resources. It provides a source of investment funds. Insurers collect the premiums and invest those in a variety of investment vehicles.

Insurance is support for the insured's credit. It facilitates loans to organizations and individuals by guaranteeing the lender payment at the time when collateral for the loan is destroyed by an insured event. Hence, reducing the uncertainty of the lender's default by the party borrowing funds.

It reduces the social burden by reducing uncompensated accident victims and the uncertainty of society.

Role of Insurance towards Economic Growth

6.3

Insurance is a big deal not just in the world of business but also contributes to the economy as a whole. It has a huge impact on how businesses evolve, how people think about economics, and how the world moves forward. Insurance is the bedrock of the economy, and while it may not be something Insured love, it is something Insured need to support business.

The insurance industry is one of the major players in the economy and contributes to the world's economy. This is because they help in the smooth running of the world's economy through the payment of insurance claims and are considered one of the safest investments for people to have.

In a variety of ways, insurance companies contribute to the strength and vitality of our economy.

Insurance companies assist businesses in reducing risk and protecting their employees:

As with consumers, assisting businesses in reducing risk can have a long-term positive impact on the economy. Insurance is like the backbone of the economy. Businesses, like consumers, can endure financial hardship as a result of unforeseen obstacles.

When an unfortunate event strikes, insurance is one of the strongest financial tools businesses have at their disposal to help them deal with the situation. Furthermore, when an employee is hurt on the job, company insurance helps to cover the costs of the person's care as well as any potential salary loss.

Business insurance also aids in the expansion of a company. At its most basic level, insurance provides a protective safety net that allows organizations to engage in higher-risk, higher-return activities than they would otherwise. These acts assist firms in operating successfully, resulting in more jobs and increased overall economic activity.

Insurance companies provide financial security to customers:

Consumers have become so accustomed to the routine that they are often unaware of the daily onslaught of risk and uncertainty. Unexpected problems can strike at any time, whether a car accident, house fire, a flooded basement after a major storm, or a work injury.

By providing crucial financial protection, insurance can assist manage this uncertainty and potential loss. When a calamity occurs, an insurance policy can help consumers get the money they need. Many people in these situations would be financially pressured and possibly bankrupt if it weren't for insurance.

Insurance companies help in the funding of economic development projects:

Insurance companies often invest the premiums that are not utilized to pay claims and other operating expenses. These investments frequently finance building construction and offer other critical assistance to economic development projects around the country through stock, corporate and government bonds, and real estate mortgages.

Insurance is about much more than the monthly premiums that individuals and businesses must pay. The insurance business, as a whole, is an important thread in the fabric of a healthy economy.

Insurance has a favourable impact on the financial system's stability:

One of the most important industries in the service sector is insurance. Insurance firms are an essential component

of the financial system. In addition, insurance corporations have a significant role in the formation of state budgets. They are large taxpayers in the state. Taxes, as we all know, make up a large portion of the state budget. As a result, the insurance industry plays a critical role in maintaining the stability of the tax and financial systems.

Insurance provides employment:

Unemployment is one of the most serious economic issues. This is a problem that many countries are dealing with these days. In most emerging countries, the number of unemployed individuals is rising. However, the insurance system aids in the resolution of this economic issue by providing employment.

Insurance contributes to an increase in GDP:

GDP is one of the most important macroeconomic metrics. The volume of GDP is used to determine each country's level of development. People can choose from a variety of insurance plans offered by insurance firms. These premiums are used by insurance companies in the financial and investment operations of the economy. As a result, this process boosts the economy's GDP.

Indian insurance companies play the following roles in the economic development of our country.

1. Saving and Insurance:

Saving involves refraining from present consumption. The investment can take place only when there are savings. The relationship between saving, investment, and growth of GDP can be explained as:

$G = S / K$. Where G – Rate of GDP growth, S – Saving Ratio, and K – Capital output ratio.

Insurance companies lead to economic development by mobilizing savings and investing them into productive activities. Indian insurance companies can mobilize long-term savings to support economic growth and also facilitate economic development by providing insurance cover to a large segment of our people as well as to business enterprises throughout India.

2. Capital Formation and Insurance:

Capital formation may be defined as an increase in the capital stock of the country consisting of plants, equipment, machinery, tools, building, means of transport, communication, etc. The process of capital formation envisages three essential steps.

These are:

- (a) **Real saving:** Mobilization of saving through financial and non-financial intermediaries to be placed at the disposal of investors.
- (b) **The act of investment:** The contribution of insurance companies in the process of capital formation appears at all these stages. Insurance services act as a tool to mobilize savings, function as a financial intermediary, and at times also indulge indirect investment. Also govt. has made regulations under which every insurer carrying on the business of life insurance shall invest 25% of funds in Govt. securities and not less than 15% in infrastructure and social sector.

The importance of the Indian insurance industry is gauged by the fact that the annual amount of investible funds of LIC and GIC and its subsidiaries amounted to over ₹ 20,000 crores and ₹ 10,000 crores is invested in nation-building activities, housing, and other infrastructural areas.

- (c) **Increased Employment:** Before the liberalization of the insurance sector in India, the employment opportunities were limited with the LIC of India as the sole employer. While some of the professionals left the country looking for opportunities elsewhere, those who remained, worked within the confines and constraints of public sector monopoly. This has further constrained the opportunities for exposure to the development of the rest of the world. Liberalization and the opening up of the sector to private players have now created a vast employment opportunity.

3. Obligation to Rural and Social Sector :

In India, insurance companies are required to fulfil their obligation to rural and social sectors. For this, Life insurers are required to have 5%, 7%, 10%, 12%, and 15% of total policies in the first five years respectively in the rural sector. Likewise, General Insurers are required to have 2% 3%, and 5% thereafter of total gross premium income written in the first five financial years respectively in the rural sector.

4. Insurance as a financial intermediary :

Financial intermediaries perform the function of channelizing saving into domestic investment. They facilitate efficient allocation of capital resources, which in turn improves productivity and economic efficiency which results in a reduced capital-output ratio. Insurance companies perform an extremely useful function in the economy as financial intermediaries. These are as follows:

- (a) **Reduction in transaction cost:** Insurers help in reducing transaction costs in the economy by collecting funds from policyholders and investing the same in different projects scattered over different regions. It is a specialized and time-consuming job.
- (b) **Creating liability:** The policyholders, in case of loss, are not required to wait for a long period for the amount of claim. It improves their liquidity.
- (c) **Facilitates Economies of scale in Investment:** Insurers are in the position of financing large projects, railways power projects, etc. These large projects create economies of scale, facilitate technological innovation and specialization and thus promote economic efficiency and productivity.

5. Promotes Trade and Commerce :

The increase in GDP is positively correlated to the growth of trade and commerce in the economy. Whether it is the production of goods and services, domestic or international trade, or venture capital projects, insurance dominates everywhere. Even banks demand insurance cover of assets while granting loans for the purchase of assets. Thus, insurance covers promote specialization and flexibility in the economic system that plays a contributory role in the healthy and smooth growth of trade and commerce.

6. Facilitates efficient capital allocation :

Insurance provides cover to a large number of firms, enterprises, and businesses and also deploys its funds in several investment projects. The vast pool of knowledge and expertise so gained enable them to distinguish between productive and high return projects. Therefore, they promote efficient and productive allocation of capital resources, which in turn lead to increased productivity and efficiency in the system.

7. Encouraging Financial Stability and Reducing Anxiety :

Insurer promotes financial stability in the economy by ensuring the risks and losses of individuals, firm, and organizations. Because of uninsured large losses, the firm may not be able to compensate for it leading to its insolvency which may cause loss of employment, revenue to suppliers & Govt., loss of products to the customer, etc. Moreover, it relieves the tensions and anxiety of individuals by securing the loss of their lives and assets.

8. Reducing Burden on Govt. Exchequer :

Insurance companies, particularly life insurers provide a variety of insurance products covering the needs of children, women, the aged, etc under the social security networks and thereby reduce the burden on Govt. the exchequer by providing these services. This Govt. saves expenditure on these items and the amount can be utilized for more productive projects. To conclude, we can say that insurance companies play an important role in the economic development of the country.

Difference between Insurance Companies and other Financial Institutions

6.4

Why are insurance companies different from other financial intermediaries? This simple question is extremely relevant to understanding the current structure of the sector as well as to designing scenarios describing its evolution. It may seem strange at a time characterized by continuous talks about the convergence of banking, asset management, and insurance activities. Examples involve the application of new asset management techniques to manage reserves of traditional insurance companies, increasing cross-selling efforts of insurance and financial products by both insurance companies and banks, modification of products sold by insurance companies to include financial elements which could traditionally be found only in products offered by banks and investment houses. Other forces pushing towards convergence are associated with regulation and accounting procedures, for example, the Financial Conglomerates Directive and the decreasing heterogeneity of accounting rules.

The evolutionary landscape of financial markets seems to be consistent with the idea that insurance companies are different. Both insurance companies and other financial intermediaries have been suffering from the development of new financial products, often associated with securitization. However, the process of financial innovation has perhaps been more challenging for commercial banks. The development of:

- (a) The money market allowing mutual funds to substitute banks in the provision of liquidity;
- (b) Financial equity derivatives threatening mutual funds as providers of diversification to final investors, and
- (c) A market for mortgages allowing mutual funds and pension funds to finance the long-run needs of would-be homeowners.

New intermediaries have been created to exploit this process, for example, financial divisions within automobile companies to provide auto loans.

Insurance companies have been on balance positively affected by securitization and the process of financial innovation, which have extended the possibility of spreading the risk of large natural catastrophes through bonds. New intermediaries have provided insurance against the default of municipal bonds, where policies are sold to the issuer municipality which attaches them to the bonds and then receives an AAA rating. However, no financial intermediary seems to have used the benefits of securitization to enter the traditional markets for insurance products. Moreover, insurance contracts have been less touched by the securitization process, perhaps because of the adverse selection problem and of the peculiarity of the “insurance know-how” in terms of risk pricing and management. This provides further proof of the specific identity of insurance companies.

Insurance Companies and other Financial Intermediaries:

Various developments in financial markets are often mentioned as examples of a convergence process in the management and operations of insurance companies and other financial institutions. Among these examples the most relevant are:

- Application of new asset management techniques to manage reserves of insurance companies. The increasing number of insurance companies investing their capital in hedge funds is a visible example of the structure of proprietary portfolios;
- Increasing full-function joint ventures in life and non-life businesses between insurance and banking financial groups;
- Modification of products sold by insurance companies to include financial elements traditionally found only in products offered by banks and investment houses. Unit-linked and index-linked products usually require passively or actively managed assets or mutual funds to act as underlying securities. Through unit-linked and index-linked products, insurance companies may then sell financial securities under the form of insurance products. In several countries, this is perhaps the most visible aspect of the convergence process and is the basis of many discussions about the necessity of a “level playing field” between commercial banks and insurance companies and the convergence of regulation.

Convergence, due to regulation and accounting procedures:

- The Financial Conglomerate Directive represents the first international application of the recommendations on the supervision of conglomerates adopted by the Group of 10 under the supervision of the Bank for International Settlements. The Directive (a) introduces specific rules for financial conglomerates to amplify the prudential legislation for credit institutions, insurance companies, and investment firms and (b) provides for the establishment of a single supervisory authority to coordinate the overall supervision of a conglomerate.
- Traditionally, banks and insurance companies were widely different due to price-based and cost-based accounting rules. However, this source of difference is decreasing, albeit incompletely. Since 2005, European insurance companies have been using International Financial Reporting Standards (IFRS-4) involving market-based rules for determining balance sheets. However, the adoption of international accounting principles has induced some differences in the evaluation of assets and liabilities, as the latter keeps being evaluated using the traditional local gap criteria.

Insurance and Finance from the point of view of the Final Investor:

There are strong connections between insurance products and financial products in a stylized model of investor choice. According to the standard description, a rational investor acts based on a long-run planning horizon, taking into account several sources of uncertainty that may undermine his financial wealth and therefore his well-being. Here is a list of some sources of uncertainty:

- **Labour Income Uncertainty:** The investor is also a worker who may be subject to uncertainty about wage and/or the amount of time spent working (unemployment being a particularly negative event);
- **Family Uncertainty:** The investor often lives within a family. This may provide a sort of spontaneous insurance against negative states of nature, for example, if there is a low or negative correlation between his income and the income of other people in the family. On the other hand, a family also creates new sources of uncertainty associated, for example, with the support of other household members and the necessity to invest future resources (with highly uncertain returns) in the education of children;
- **Health Risk:** Both the investor and other members of the family are subject to the risk of deterioration of health, and death;
- **Consumption Risk:** The current and future level of consumption may be at risk as a consequence of the previous risk factors or other risk factors of temporary or permanent nature;

- House Risk:** The house represents the largest part of wealth for most families but fluctuations in its value are usually not insured and expose overall wealth to the risk of fluctuations. Moreover, houses are usually purchased through mortgages which expose the household to new sources of risk, for example, interest rate risk.

In virtually all cases, risk manifests itself as a bad state of nature, one in which income or wealth falls considerably because of exogenous events. In all cases, a high level of wealth is a way to absorb the consequences of such states of nature with minimum damage. Accumulation of wealth and its consequent investment in financial assets creates, of course, new sources of financial risk, which may affect the growth path of wealth over time. Such risks are well-known and need not be mentioned here.

To most families, maximizing the rate of growth of wealth is not enough to hedge against future states of nature. Most families will never achieve a level of wealth that is so high as to make risky states of nature almost irrelevant in utility terms.

Insurance products are therefore needed to protect oneself from well-identified risk sources. Buying protection against risks is useful from the point of view of the overall planning problem. To a rational, long-term investor, the portfolio that maximizes long-run well-being is equivalent to the portfolio that minimizes the fluctuations of consumption over time. The rational investor selects securities intending to stabilize consumption across states of nature. In determining expected returns, investors should require a lower premium to hold securities that are uncorrelated with the market and may therefore provide natural insurance against the events of a market downturn.

From the point of view of demand, then, it is not relevant to separate insurance policies from financial products. Insurance and finance mix to determine an optimal portfolio of securities minimizing volatility across states of nature and maximizing expected returns. Risks can certainly be categorized differently. Perhaps a useful starting point is to distinguish between risks that are observed more or less continuously, such as fluctuations in the prices of assets, and risks that are observed discontinuously. In several cases, hedging of discontinuous risks may be obtained through products supplied by insurance companies. “Life insurance companies provide a vital financial service to individuals and to firms who wish to insure themselves against financial losses which might be incurred as a result of any of the following: (a) death; (b) survival to a particular time or over a particular period; (c) sickness or disability”. Nowadays, such demographic issues are more pervasive than ever due to increased life expectancy. Longer life is associated with the need to protect against long-term consumption risks. Quality of life is also a relevant factor that requires the purchase of insurance products. Such demographic differences are a permanent and probably expanding factor, differentiating banks and insurance companies.

To understand the limits of convergence between insurance companies and other financial intermediaries, we have first to understand which characteristics (from the point of view of the supplier) make it convenient to offer different classes of products covering different classes of risks. Is a financial intermediary offering a product covering a specific risk in the best possible position to also offer a product covering another risk? What characteristics are relevant from the point of view of the supplier?

Insurance and finance from the point of view of the supplier

In comparing insurance companies and other financial intermediaries we will refer to the functional perspective as opposed to the institutional perspective.

One perspective takes as given the existing institutional structure of financial intermediaries and views the objective of public policy as helping the institutions currently in place to survive and flourish. Framed in terms of the banks, or the insurance companies, private-sector managerial objectives are similarly posed in terms of what can be done to make those institutions perform their particular intermediation services more efficiently and profitably. An alternative to the institutional perspective and the one we take here is the functional perspective. The functional perspective takes as given the economic functions performed by financial intermediaries and asks what is the

best institutional structure to perform those functions. In contrast to the institutional perspective, this functional perspective does not posit that existing institutions, whether operating or regulatory, will necessarily be preserved. Instead, its structure rests on two basic premises: (1) financial functions are more stable than financial institutions that is, functions change less over time and vary less across geopolitical boundaries; and (2) competition will cause the changes in institutional structure to evolve toward greater efficiency in the performance of the financial system.

The functional perspective rests on the idea that financial institutions exist to solve the problems of consumers. Technological innovations, changes in regulations, and competition may change the range of activities and products associated with a specific intermediary, but the intermediary will always try to help consumers to solve their problems. This is the reason why a study of convergence must start from the demand side, as we have done in the previous section. A financial intermediary trying to solve a specific class of needs on the part of the consumers will specialize in specific financial tools.

Economic theory, coherently with the development of the functional perspective, stresses that financial intermediaries are less and less explained by traditional elements such as transaction costs and asymmetric information. Transaction costs have decreased over time but the role of financial intermediaries has increased. Financial intermediaries have an increasing role as facilitators of risk transfers and as experts in dealing with the growing complexity of financial markets. By repackaging complex securities into assets with more stable and predictable cash flows, they may encourage participation in risky investments on the part of risk-averse individuals.

Products that provide wealth in specific states of nature and are triggered by specific events are mainly provided by insurers. Specific events may be defined in terms of what happens to a single individual, for example, death, or in terms of what happens to a group of people or companies, for example, insurance against general climatic events. Traditional insurance products are sold by companies that exploit the law of large numbers. By ensuring risks that are independent across a large population, and by charging a fair premium to each member of the population, they can control the overall rate of inflows and outflows and obtain a profit. Insurance companies issue customized insurance contracts and invest the proceeds in assets that are coherent with the profile of the liabilities. In doing so, insurance companies are different in several ways, such as in the areas of secondary markets and securitization, regulation and accounting practices, distribution channels, and asset management.

Secondary Markets and Securitization :

An important element distinguishing insurance companies from several other financial intermediaries is the lack of a secondary market where the contracts written by insurance companies may be traded. The holder of a financial product issued by a different intermediary, for example, a structured product issued by an investment bank or a bond issued by a non-financial company, can sell the product in secondary markets with varying degrees of liquidity. Even banks can sell their loans to third parties due to improvements in securitization. However, the holder of an insurance policy can only obtain payments from the company that has issued the policy. The holder cannot sell his insurance policy to a third final investor.

Of course, this does not imply that the insurance company needs to maintain the risk on its balance sheets. The company may well decide to sell this risk to financial investors through securitization. "The securitization process involves the isolation of a pool of assets or rights to a set of cash flows and the repackaging of the asset or cash flows into securities that are traded in capital markets". The insurance company may then decide to separate a few well-defined sources of risk and package them into securities which are then bought by investors searching for assets with risks that are uncorrelated with the market. There are several sources of such risk in the balance sheets of insurance companies, for example, demographic risks associated with mortality and longevity, or catastrophic risks connected with natural events. Advantages of the securitization process, for both insurers and capital markets in general.

However, the proportion of securities created through securitization activities has mainly arisen out of business

not directly emerging from insurance companies. Rather, the main sources of securitization have been mortgage-backed securities and asset-backed securities associated with auto loans, consumer credits, and similar. The potential arising from the very large pool of assets and liabilities of insurance companies has been exploited very little. It is difficult to explain this without a theoretical model, but certainly, problems connected with moral hazard and adverse selection may have a large role.

This reinforces our point: Differences in the fundamentals of the business models of insurance companies and other financial intermediaries have led to different operational structures. Moreover, the lesser role played by securitization in the insurance industry implies that the originate-and-distribute model prevailing in the banking industry in the last several years has not been predominant in the insurance industry. While banks have relied on their ability and skills to originate loans to then pass the risk to other investors, insurance companies have usually kept the risk on their balance sheets, trying to manage it through asset and liabilities choices. For example, mortality and longevity risks have not been separately sold to other investors, but have to some extent hedged each other in the balance sheets. The differences between the insurance companies and banks were very clear during the crisis of the summer of 2007. Many assets related to securitization carried out by banks have seen large drops in their values due to fundamental and liquidity reasons. Some banks and investment banks have been hit as buyers of mortgage-backed securities. Likely, several insurance companies have also been hit as investors. The liquidity crisis has stopped several markets from functioning efficiently and has frozen the possibility to sell loans and other asset-backed securities, dislocating the business model on which banks have relied for several years. This dislocation has, of course, reflected itself in the level of operating profits. Similar dislocations have not been observed for insurance companies, which do not rely so strongly on external capital markets to obtain flows of continuous new capital to invest in the business. Again, this points to basic differences between insurance companies and other financial intermediaries.

Regulation and Accounting Practices :

Regulation and accounting practices may also affect the degree of convergence. Different regulations and accounting practices certainly prevent the extent of convergence.

To an institution offering both financial products and insurance products, the impact of regulation and accounting may be a relevant cost factor preventing the complete merging of activities that could technically be performed at the same time. For example, the existence of cost-based accounting prevents a supplier from jointly treating financial products and insurance products in its books and requires a separation of procedures.

Distribution Channels:

Life insurance products are sold through individual agents whereas general insurance products are sold through individual agents, corporate agents, and brokers. There are some apparent long-run trends in the relative importance of the various channels, for example, the reduction of the role of individual agents in the U.S. or the increase of corporate agents (particularly bank-led channels like bancassurance) in Europe. However, the different channels have coexisted for a long time and continue to do so. This is interesting due to the different cost structures of the channels and the presence of innovations, such as the Internet. Internet has not substituted traditional channels but rather has been used as an instrument for contacting consumers. Moreover, differential costs can coexist in equilibrium if they provide differential benefits to the final customers, mainly in terms of clarification of the details of the sometimes-complex insurance products.

Bancassurance is an obvious example of convergence between banks and insurance companies. It is associated with the idea that one-stop shopping may be a crucial point in the selling proposition of modern insurance companies. There are several reasons why insurance companies may be interested in bank-led distribution channels. Insurance companies may hope to exploit the important competitive advantage of banks, consisting of the wide customer base, the many available branches, and the stickiness of the relations between banks and clients, and at the same

time save on the large training and maintenance costs associated with a captive distribution channel.

The possibility of using banks to sell insurance products is crucially related to the skills which are needed to inform and assist consumers. If insurance products and financial products were perfect substitutes, there would be no main problems using a unique distribution channel. A unique channel would prevent duplication of efforts and would increase private and social efficiency.

The evidence is mixed, however. One-stop shopping is not equally popular in different countries, questioning the sustainability of the idea of jointly selling insurance and financial products. In Continental Europe, most life insurance products are sold through captive channels such as tied agents and banks rather than through advice-based channels like brokers or financial advisers. This facilitates cross-selling of products, even though the profitability of such efforts is limited by the fact that more affluent customers tend to prefer adviser channels. However, property and casualty products are not widely sold through banks, which is also true in the European case. This may well be because the skills of the salesforce that are necessary to sell insurance products may be different from the skills that are needed to sell financial products. To make cross-selling efforts effective, the sale of insurance products needs to be supported by more and better training, especially the non-life insurance products (e.g. motor, health, long-term care) are concerned.

There is a difference between the demand for insurance products and financial products. The former requires a specific culture and is based on the willingness and capability to adopt a truly forward-looking attitude to the solution of the overall financial problem highlighted in the previous section. The latter is more heavily affected by fads and transitory components associated with perceived valuation errors on the part of the markets. Moreover, the structure of demand differs widely depending on the type of insurance products under consideration. In the property and liability sector, for example, demand comes largely from the corporate sector. The choice of distribution channels cannot ignore the different identities of the demand. These are reasons why the process that leads to the sale of the two products requires different skills and different attitudes towards the clients.

From a strategic point of view, the choice of whether to distribute insurance products mainly through bank-led channels or captive channels is of fundamental importance to insurance companies. It amounts to deciding whether the value-creating activities of insurance companies expand to both production and distribution of products or whether companies decide to be providers of products and choose for themselves an engineering role of devising and managing new products. Evidence from the asset management industry shows that pure asset managers are indeed profitable but in a very cyclical way. Increasing the role of bank-led channels in the distribution of insurance products may therefore not necessarily reduce the profitability of insurance companies but may make profits less stable over time. This could in turn cause a significant repricing of insurance companies' stocks.

Asset Management :

Insurance companies have increased their role as asset managers. The development of unit-linked products has allowed insurance companies to sell financial products wrapped in the context of typical insurance products. Especially in European markets, the products included in the wrapped structure have consisted of internally managed mutual funds.

Moreover, many insurance companies have adopted an active style in managing their reserves. While traditionally such reserves have been invested in fixed income assets, there has been a recent wave of investment in equities and alternative assets like hedge funds.

It is well-known that asset management is a sector characterized by various economies of scale. Moreover, active asset management requires increasingly sophisticated skills. Many insurers manage assets through outsourcing due to the increasing complexity of asset management techniques and the search for higher returns in a low-interest-rate environment. External asset managers can better exploit economies of scale and offer competitive management products and services.

Liabilities and Size :

A key difference between insurers and other financial intermediaries, bankers, and asset managers lies in some aspects of their liabilities. More precisely, insurers' liabilities share with the long-term liabilities of other institutions (i.e., bonds issued by a financial or non-financial company) the duty to pay fixed (as in the case of capital redemption or fixed coupons) or indexed (as in the case of floating rate coupons) amounts of money but do not share the certainty of the timing of the future fixed or indexed cash flows, due to uncertainty about the moment in which the event causing the payment will happen and due to the possibility of early redemptions in the absence of a secondary market. In several cases even the amount of the liability and the time and amount of premiums (as in the case of recurring premium products) are uncertain, magnifying the specificity of insurers' liabilities.

This similarity to the characteristic of various financial assets may appear to back the story of a convergence of insurance companies and other financial intermediaries. But that is not true. Many financial institutions, for example, investment banks, manage their liabilities by building up a hedging portfolio of financial assets able to replicate the liabilities' profile (risk hedging); since the timing of cash flow is certain and the factors of uncertainty are only financial factors, it is possible to manage a portfolio able to replicate the dynamics of liabilities. Insurers cannot do that; when the timing of cash flows is uncertain and since the risk factors may not necessarily be traded it is not possible to build a hedging portfolio of financial assets that can replicate the liabilities' profile.

Insurers face their liability in a completely different way, that is, pooling a large group of similar risks so that the accidental losses become – by the law of large numbers and the central limit theorem – predictable within narrow limits (risk pooling).

In other words, while the art of banking is building up a “good” asset portfolio to match liabilities (or changing liabilities to match assets), the art of an insurer is building up a “good” liabilities portfolio to apply the law of large numbers and the central limit theorem and then estimate the average losses. As a consequence, while the core risk of a banker is the mismatch risk, the core risk of an insurer is the underwriting risk, that is, the risk that an insurer suffers losses because the actual average losses are higher than the expected ones.

The recent financial crisis has provided important evidence about the mismatch risk of banks, showing that such a risk is heavily dependent on the valuation uncertainty of the assets. The British bank Northern Rock has seen a traditional bank run caused by depositors who were uncertain about the valuation of the assets of the bank, largely invested in mortgages. Uncertainties about the ability to pay on the part of the borrowers have caused the run-on deposits. In this case, the mismatch risk was associated with market risk. Formal guarantees provided by the government have calmed investors, but the bank's operations have not become normal due to the mismatch between assets and liabilities and the need to use the money market to provide short-term funds. The bad functioning of the money market, however, has prevented Northern Rock from borrowing for several weeks, with severe damages to the profitability of the bank. In turn, the money market was not functioning normally due to a general fall in confidence among financial institutions about the solvency of the other financial institutions, a fall associated with uncertainty about the strength of balance sheets.

Scale of Operations :

In the case of insurers, risk per unit of the financial portfolio decreases by increasing the volume of activity. An investor (e.g., an investment bank) having an assets/liabilities portfolio with the same weights of the assets/liability's portfolio as a second investor but one thousand times bigger, has a risk one thousand times bigger. An insurance company has an assets/liabilities portfolio with the same weights of the assets/liability's portfolio as a second insurance company but one thousand times bigger has risk lower than one thousand times that of the previous one. To estimate the value and risk of an insurer, one cannot leave the insurer's dimensions out of consideration.

The difference between insurance companies and asset managers is even more evident. Since asset managers by definition maintain a perfect balance between assets and liabilities, they do not need to estimate the timing of their future cash flow to build up an asset allocation able to finance their liabilities. Asset managers are used to optimizing their portfolio just over an investor's hypothetical time horizon, but they do not have to do anything to estimate the actual time horizon. If clients change their minds and redeem their investments earlier than expected, asset managers just have to sell the related assets and pay back what results from the sale.

Insurers, on the contrary, have to optimize their portfolio, not over a hypothetical time horizon, but over the expected time horizon, since their liabilities are not just linked to the market value of their assets, but to exogenous drivers (e.g., agreed benefits, suffered damages, guarantee capital, etc.). To summarize, insurers estimate the expected time horizon of their investments by pooling a large group of similar risks so that the time of accidental losses driving their cash flows (i.e., death in life insurance) becomes – by the law of large numbers and the central limit theorem – predictable within narrow limits.

In other terms, while the art of an asset manager is building up a “good” asset portfolio to match a hypothetical liability, the art of an insurer is building up a “good” asset portfolio to match a real liability.

As a consequence, while the core risk of an asset manager is the reputation risk, the core risk of an insurer is the underwriting risk, that is, the risk that an insurer suffers losses because the actual timing of its losses differs from the expected one. To separate the underwriting risk due to potential errors in estimating the actual losses from the underwriting risk due to potential errors in estimating the actual timing of losses, we will refer to the first one as “cash flow risk” and the second one as “timing risk”.

The relevance of the scale of operations is not equivalent to the existence of economies of scale for the insurance industry as a whole. If economies of scale were so strong, we should have observed a process of increasing concentration. However, such a concentration has not been observed. The reason for that could probably be found in the “non-uniqueness” of risk pooling as the instrument by which insurance companies can reduce risk. The insurer can also support the typical risk-pooling activity with hedging (e.g., through reinsurance) and risk-spreading, that is, by underwriting groups of non-similar risks or by fully diversifying his business.

Insurance companies have a unique role as absorbers of risks that cannot be hedged. This is crucial to the welfare of companies and individuals. Insurance companies need to be very smart in devising an asset allocation policy that is coherent with the expectations of stakeholders and at the same time guarantees enough wealth to cover all the necessities of policyholders. Continuous improvements in asset management techniques will therefore be a crucial source of value creation, in the context of strict control of risks.

Banks and insurance companies maintain structural differences, limiting the extent of convergence due to factors such as demographics, the structure of liabilities, the scale of operations, regulation and accounting practices, and distribution channels. Demography directly affects the needs of consumers regarding the risks to be covered; the structure of liabilities is important due to the limited possibilities to hedge many of them; the securitization process has been less relevant for insurance companies than for other financial intermediaries; regulation is different and implemented by different authorities; accounting is usually carried out on a price basis in the banking sector and on a cost basis in the insurance sector, and distribution channels require different expertise.

Insurance Regulatory and Development Authority (IRDA) – Objectives, Statutory Powers and Functions of IRDA

6.5

A. As per Sec. 4 of IRDAI Act, 1999, the composition of the Authority is:

- (a) Chairman;
- (b) Five whole-time members;
- (c) Four part-time members,
(Appointed by the Government of India)

All the major activities of IRDAI including ensuring the financial stability of insurers and monitoring the market conduct of various regulated entities are carried out from the Head Office.

IRDAI's Head Office at Hyderabad and Regional Offices are in New Delhi & Mumbai

The Regional Office, New Delhi focuses on spreading consumer awareness and handling Insurance grievances besides providing the required support for inspection of Insurance companies and other regulated entities located in the Northern Region. This office is functionally responsible for licensing Surveyors and Loss Assessors. Regional Office at Mumbai handles similar activities, as in Regional Office Delhi, in Western Region.

B. Insurance Regulatory Framework:

1. Insurance Regulatory and Development Authority of India (IRDAI), is a statutory body formed under an Act of Parliament, i.e., the Insurance Regulatory and Development Authority Act, 1999 (IRDAI Act 1999) for the overall supervision and development of the Insurance sector in India.
2. The powers and functions of the Authority are laid down in the IRDAI Act, 1999, and Insurance Act, 1938. The key objectives of the IRDAI include the promotion of competition to enhance customer satisfaction through increased consumer choice and fair premiums while ensuring the financial security of the Insurance market.
3. The Insurance Act of 1938 is the principal Act governing the Insurance sector in India. It provides the powers to IRDAI to frame regulations that lay down the regulatory framework for the supervision of the entities operating in the sector. Further, certain other Acts govern specific lines of Insurance business and functions such as the Marine Insurance Act, 1963 and the Public Liability Insurance Act, 1991.
4. **IRDAI** adopted a Mission for itself which is as follows:
 - To protect the interest of and secure fair treatment to policyholders;
 - To bring about speedy and orderly growth of the Insurance industry (including annuity and superannuation payments), for the benefit of the common man, and to provide long term funds for accelerating growth of the economy;
 - To set, promote, monitor, and enforce high standards of integrity, financial soundness, fair dealing, and competence of those it regulates;

- To ensure speedy settlement of genuine claims, to prevent Insurance frauds and other malpractices, and to put in place effective grievance redressal machinery;
- To promote fairness, transparency, and orderly conduct in financial markets dealing with Insurance and build a reliable management information system to enforce high standards of financial soundness amongst market players;
- To take action where such standards are inadequate or ineffectively enforced;
- To bring about the optimum amount of self-regulation in the day-to-day working of the industry consistent with the requirements of prudential regulation.

5. **Entities regulated by IRDAI:**

- a) Life Insurance Companies - Both public and private sector Companies
- b) General Insurance Companies - Both public and private sector Companies. Among them, there are some standalone Health Insurance Companies that offer health Insurance policies.
- c) Re-Insurance Companies
- d) Agency Channel
- e) Intermediaries which include the following:
 - Corporate Agents
 - Brokers
 - Third-Party Administrators
 - Surveyors and Loss Assessors.

6. Regulation making process:

Section 26 (1) of IRDAI Act, 1999 and 114A of Insurance Act, 1938 vests power in the Authority to frame regulations, by notification.

Section 25 of IRDAI Act, 1999 lays down for the establishment of an Insurance Advisory Committee consisting of not more than twenty-five members excluding the ex-officio members. The Chairperson and the members of the Authority shall be the ex-officio members of the Insurance Advisory Committee.

The objects of the Insurance Advisory Committee shall be to advise the Authority on matters relating to the making of regulations under Section 26.

Accordingly, the draft regulations are first placed in the meeting of the Insurance Advisory Committee and after obtaining the comments/recommendations of IAC, the draft regulations are placed before the Authority for its approval.

Every Regulation approved by the Authority is notified in the Gazette of India.

Every Regulation so made is submitted to the Ministry for placing the same before the Parliament.

7. **The Authority has issued regulations and circulars on various aspects of operations of the Insurance companies and other entities covering:**

- Protection of policyholders' interest
- Procedures for registration of insurers or licensing of intermediaries, agents, surveyors, and Third-Party Administrators;
- Fit and proper assessment of the promoters and the management

- Clearance /filing of products before being introduced in the market
- Preparation of accounts and submission of accounts returns to the Authority.
- Actuarial valuation of the liabilities of life Insurance business and forms for filing of the actuarial report;
- Provisioning for liabilities in case of non-life Insurance companies
- Manner of investment of funds and periodic reports on investments
- Maintenance of solvency
- Market conduct issues

C. Supervisory Role:

1. The objective of supervision as stated in the preamble to the IRDAI Act is “to protect the interests of holders of Insurance policies, to regulate, promote and ensure orderly growth of the Insurance industry”, both Insurance and Reinsurance business. The powers and functions of the Authority are laid down in the IRDAI Act, 1999 and Insurance Act, 1938 to enable the Authority to achieve its objectives.
2. Section 25 of IRDAI Act 1999 provides for the establishment of the Insurance Advisory Committee which has Representatives from commerce, industry, transport, agriculture, consumers, surveyors’ agents, intermediaries, organizations engaged in safety and loss prevention, research bodies, and employees’ association in the Insurance sector are represented. All the rules, regulations, and guidelines that apply to the industry are hosted on the website of the supervisor and are available in the public domain.
3. Section 14 of the IRDAI Act, 1999 specifies the Duties, Powers, and functions of the Authority. These include the following:
 - To grant licenses to (re) Insurance companies and Insurance intermediaries
 - To protect the interests of policyholders,
 - To regulate investment of funds by Insurance companies, professional organizations connected with the (re)Insurance business; maintenance of margin of solvency;
 - To call for information from, undertake inspection of, conduct inquiries and investigations of the entities connected with the Insurance business;
 - To specify requisite qualifications, code of conduct, and practical training for intermediary or Insurance intermediaries, agents and surveyors, and loss assessors
 - To prescribe form and manner in which books of account shall be maintained and statement of accounts shall be rendered by insurers and other Insurance intermediaries;

D. Prudential approach: Reporting, Risk monitoring, and intervention:

1. Reporting Requirements:

Insurers are required to submit various returns like financial statements on an annual basis duly accompanied by the Auditors’ opinion statement on the annual accounts; reports of valuation of assets, valuation of liabilities, and solvency margin; actuarial report and abstract and annual valuation returns giving information about the financial condition for life Insurance business; Incurred But Not Reported claims in case of general Insurance business; Reinsurance plans on an annual basis; and monthly statement on the underwriting of large risks in case of general Insurance companies; details of capital market exposure every month; Investment policy, Quarterly and annual returns on investments.

2. Solvency of Insurers:

To monitor and control solvency requirements, it has been made mandatory for the insurers to submit solvency reports every quarter. In case of any deviation, the Supervisor initiates necessary and suitable steps to ensure that the Insurer takes immediate corrective action to restore the solvency position at the minimum statutory level.

Computation of solvency margin takes into account the inherent risk that the respective line of business poses to the insurer. Higher requirements are placed for risky lines of business compared to others posing less risk to the insurers. Even though the insurers are required to maintain a minimum solvency ratio of 150% at all times, the actual solvency margin maintained by insurers is well above the required solvency margin leading to the solvency margin ratio significantly higher than 150% on average.

Quarterly solvency ratio reports have to be submitted to the Supervisor, maintaining a minimum solvency ratio of 150%. This provides regular a mechanism to monitor the solvency position periodically over the financial year to ensure compliance with the requirements and hence to initiate suitable action in the event of any early warning signal on the Insurer's financial condition.

3. Asset-Liability Management:

Under Asset-Liability Management reporting, the Insurer must provide the year-wise projected cash flows, in respect of both assets and liabilities. Insurers must maintain mismatching reserves in case of any mismatch between assets and liabilities as a part of the global reserves. Further, Life insurers are required to submit a report on sensitivity and scenario testing exercises in the prescribed format. Non-life insurers must submit a report on 'Financial Condition' covering the sensitivity analysis of the financial soundness in meeting the policyholders' liabilities.

The supervisor requires the management of investments to be within the insurer's organization. To ensure a minimum level of security of investments in line with Insurance Act Provisions, the regulations prescribe certain percentages of the funds to be invested in government securities and approved securities. The regulatory framework lays down the norms for the mix and diversification of investments in terms of Types of Investment, Limits on exposure to Group companies, and Insurer's Promoter Group Company. Investment Regulations lay down the framework for the management of investments. The exposure limits are also prescribed in the Regulations. The Investment Regulations require a proper methodology to be adopted by the insurer for matching assets and liabilities.

4. Reinsurance:

Transfer of risk through Reinsurance is recognized only to the extent specified in the regulations. Due safeguards are built in to ensure that adjustments are made to provide for the quality of assets held. No other risk transfer mechanism exists in the current system. To minimize the counterparty risk, the re-insurers with whom the business is placed must have the minimum prescribed rating by an independent credit rating agency as specified in the regulations. Legislation has specified the minimum capital requirements for an insurance company. It further, prescribes that Insurance companies can capitalize on their operations only through ordinary shares which have a single face value.

Reinsurer:

General Insurance Corporation of India (GIC of India) is the sole National Reinsurer, providing Reinsurance to the Insurance companies in India. The Corporation's Reinsurance program has been designed to meet the objectives of optimizing retention within the country, ensuring adequate coverage for exposure, and developing adequate capacities within the domestic market. It is also administering the Indian Motor Third Party Declined Risk Insurance Pool – a multilateral Reinsurance arrangement in respect of specified commercial vehicles where the policy issuing member insurers cede Insurance premium to the Declined Risk pool based on the underwriting policy approved by IRDAI.

5. Corporate Governance:

To protect long- terms interests of policyholders, the IRDAI has outlined appropriate governance practices applicable to Insurance companies for maintenance of solvency, sound long-term investment policy, and assumption of underwriting risks on a prudential basis from time to time. The IRDAI has issued comprehensive guidelines for adoption by Insurance companies on the governance responsibilities of the Board in the management of the Insurance functions. These guidelines are in addition to provisions of the Companies Act, 1956, Insurance Act, 1938, and other applicable laws.

Corporate Governance Guidelines issued by IRDAI require insurers to have in place requisite control functions. The oversight of the control functions is vested with the Boards of the respective insurer. It lays down the structure, responsibilities, and functions of the Board of Directors and the senior management of the companies. Insurers are required to adopt sound prudent principles and practices for the governance of the company and should have the ability to quickly address issues of non-compliance or weak oversight and controls.

The Guidelines mandated the insurers to constitute various committees viz., Audit Committee, Investment Committee, Risk Management Committee, Policyholder Protection Committee, and Asset-Liability Management Committee. These committees play a critical role in strengthening the control environment in the company.

6. On and off-site Supervision:

Onsite Inspections:

The Authority has the power to call for any information from entities related to the insurance business – Insurance companies and intermediaries, as may be required from time to time.

On-site, inspection is normally carried out on an annual basis which includes inspection of corporate offices and branch offices of the companies. These inspections are conducted to check compliance with the provisions of the Insurance Act, Rules, and regulations framed thereunder.

The inspection may be comprehensive to cover all areas or maybe targeted on one, or a combination of, key areas. When a market-wide event having an impact on the insurers occurs, the Supervisor obtains relevant information from the insurers, monitors developments, and issues directions as it may consider necessary. Though there is no specific requirement, events of importance trigger such action. The supervisor reviews the “internal controls and checks” at the offices of Insurance companies, as part of an on-site inspection.

Off-site Inspection:

The primary objective of off-site surveillance is to monitor the financial health of Insurance companies, identifying companies that show financial deterioration and would be a source for supervisory concerns. This acts as a trigger for timely remedial action.

The off-site inspection is conducted by analysing periodic statements, returns, reports, policies, and compliance certificates mandated under the directions issued by the Authority from time to time. The periodicity of these filings is generally annual, half-yearly, quarterly, and monthly and is related to business performance, investment of funds, remuneration details, expenses of management, business statistics, and auditor certificates related to various compliance requirements.

The statutory and the internal auditors are required to audit all the areas of functioning of the Insurance companies. The particular area of focus is the preparation of accounts of the company to reflect the true and fair position of the company as of the Balance Sheet date. The auditors also examine compliance or otherwise with all statutory and regulatory requirements, and in particular whether the Insurance company has been compliant with the various directions issued by the supervisor. In addition, the Authority relies upon the certifications which form part of the Management Report. The Board is required to certify that the management has put in place an internal audit system commensurate with the size and nature of its business and that it is operating effectively.

All Insurance companies are required to publish financial results and other information in the prescribed formats in newspapers and on their websites at periodic intervals.

7. Micro Insurance and Rural & Social Sector Obligations:

The IRDAI had issued micro-Insurance regulations for the protection of low-income people with affordable Insurance products to help cope with and recover from common risks with standardized popular Insurance products adhering to certain levels of cover, premium, and benefit standards. These regulations have allowed Non-Governmental Organisations (NGOs), Self Help Groups (SHGs), and other permitted entities to act as agents to Insurance companies in marketing micro-Insurance products and have also allowed both life and non-life insurers to promote combi-micro-Insurance products.

The Regulations framed by the Authority regarding the obligations of the insurers towards the rural and social sectors stipulate targets to be fulfilled by insurers on an annual basis. In terms of these regulations, insurers are required to cover year-wise prescribed targets (i) in terms of several lives under social obligations; and (ii) in terms of the percentage of policies to be underwritten and the percentage of total gross premium income written directly by the life and non-life insurers respectively under rural obligations.

To Sum Up:

The Insurance Regulatory and Development Authority of India (IRDAI) is an autonomous regulatory body that protects the interests of the policyholder. They oversee the growth of the insurance sector in India, the requirements that different types of insurance policies project, and help maintain a speedy development. The IRDAI was formed under the IRDAI Act in 1999, with various functions and responsibilities conferred upon them.

Role of IRDAI in the insurance sector:

- IRDAI issues a certificate of registration to the Life Insurance Company and also renews, modifies, withdraws, suspends and cancels the registration.
- The regulatory body secures policyholder's interests in areas like assigning of policy, nomination by policyholders, insurable interest, settlement of insurance claim, surrender value of the policy, and other terms and conditions applicable to an insurance contract.
- It specifies the requisite qualifications, code of conduct and practical training required for insurance intermediaries and agents.
- IRDAI makes certain that the code of conduct is followed by surveyors and loss assessors.
- The autonomous body promotes efficiency in the conduct of the insurance business.
- It also promotes and regulates professional organisations connected with the insurance and reinsurance business.
- It levies fees and other charges for carrying out the purposes of the IRDAI Act.
- IRDAI carries out functions like inspection, conducting inquiries and investigations, including an audit of the insurers, insurance intermediaries and other organisations involved with the insurance business.
- The rates, advantages, terms and conditions that may be offered by insurers with respect to general insurance business are also controlled and regulated by the regulatory body.
- It also specifies the form and manner in which books of account should be maintained, and the statement of accounts should be rendered by insurers and insurance intermediaries.
- IRDAI monitors the investment of funds by insurance companies and governs the maintenance of the margin of solvency.

- It also judges the disputes between insurers and intermediaries or insurance intermediaries.
- It supervises the functioning of the Tariff Advisory Committee.
- IRDAI specifies the percentage of premium income of the insurer to finance schemes for promoting and regulating professional organisations.
- It specifies the percentage of life insurance and general insurance business to be undertaken by the insurer in the rural or social sector.

With so many roles, the IRDAI maintains the standard of the industry and takes measures to eliminate insurance frauds.

The insurance business in India is regulated by them and they supervise the functioning of Life Insurance and General Insurance companies that are operating in the country.

IRDAI has set various rules and regulations for the operation of the insurance industry. Its sole objective is to defend the interest of the policyholders and ensure the growth and evolution of the insurance industry holistically. IRDAI regularly issues notices to insurance companies in case there are any changes in the rules and regulations. It leads the insurance companies to foster efficiency in the conduct of insurance business and control the rates or any other charges related to insurance.

The IRDAI Act provides a complete regulation of the insurance sector in India (all the insurance business in India is regulated by IRDAI). The IRDAI plays a key role in the development of regulatory mechanism of insurance in the insurance sector.

A committee was established by the Government of India to examine the structure of the insurance sector and to advocate revisions to the rules and regulations to make it more effective and efficient.

IRDAI was presented in the parliament in 1999. The bill was discussed and debated before it finally became the Insurance Regulatory and Development Authority of India (IRDAI) Act of 1999.

Insurance Ombudsman: Approach insurance company for any query or distress concerning policy. However, if feel issue is not resolved, Insured can approach the Insurance Ombudsman, which plays the role of grievance redressal forum for policyholders. It is a scheme launched by the Central Government for impartial, efficient, and cost-effective settlement of grievances of a policyholder. Insured can employ Insurance Ombudsman in case of:

- Claim settlement delay.
- Dispute over insurance premium.
- Total or partial rejection of the claim by the insurance company.
- Conflict over policy terms and conditions.
- Disputes over legal aspects of the policy.
- Disputes related to policy services.
- Any breach of rules or regulations of the Insurance Act, 1938.

Insured can lodge a complaint in writing, duly signed by the complainant or by employing any legal heirs or nominees. Insured can complain either in person or via email/post/fax along with a hard copy.

The insurance industry is divided into two main categories:

1. **Life insurance:** As the name implies, life insurance governs the plans that safeguard Insured life. It is a contract between an insurance policyholder and an insurance company wherein the insurer agrees to pay a sum of money in exchange for premium payments if the covered person passes away, or after the designated maturity period. Further, life insurance is of two types -term life insurance and whole life insurance.

2. Non-life insurance (also commonly known as general insurance): Everything else that is not covered under life insurance falls under non-life or general insurance. This includes – health insurance, vehicle insurance, two-wheeler insurance, home insurance, business insurance, travel insurance, etc.

The Insurance Industry in India, established back in the early 1800s, has developed over the decades with better transparency and emphasis on protecting the interest of the policyholders. Here are the roles IRDAI plays in the Indian Insurance Sector:

- Protecting the interest of the policyholder.
- Assist in advancing the growth of the insurance industry in an organised manner for the benefit of the common man.
- Grant, renew, revoke, modify or suspend the registration certificate of an insurance company.
- Safeguard the policyholder in matters concerning the grant of policies, settlement of a claim, selection of a nominee by the policyholder, surrender policy value and other such terms and conditions of the policy.
- Provide long-term funds to accelerate the nation's economy.
- Enforce high standards of integrity and competence among policy providers.
- Ensure that genuine claims are settled efficiently.
- Prevent malpractices and policy fraud by providing a grievance redressal forum for policyholders.
- Promote fairness and transparency of insurance in financial markets.
- To build a reliable management system to ensure that high standards are maintained and financial stability is observed by the policy providers.
 - ▲ Take appropriate actions when high standards are not maintained.
- To ensure an optimal level of self-regulation in the insurance industry.

Objective of IRDAI: The primary objective of the IRDAI is to implement the provisions under the Insurance Act. The mission statement of IRDAI is:

- To safeguard the interest of the policyholder and ensure his/her fair treatment.
- To govern the insurance industry impartially and to make sure the financial sanity of the industry remains intact.
- To routinely formulate regulations to ensure the insurance industry functions without any uncertainty.

History of IRDAI: The Government of India was the regulatory body for the insurance industry until the year 2000. However, in order to establish a stand-alone body, the IRDAI was built following the recommendation of the Malhotra Committee Report in 1999. By August 2000, the IRDAI began accepting applications for registrations and allowed companies through invites from different countries to invest as much as 26% in the Indian market.

It has defined several rules and regulations under the Insurance Act of 1938. These regulations range from registration of insurance companies to operating in the country to protect the interest of policyholders. As of September 2020, there are 24 Life Insurance companies and 31 General Insurance companies who are registered with the IRDAI.

IRDAI, known to be the apex body of the insurance sector, ensures that it frames rules and regulations without any uncertainty or ambiguity towards any insurance company. To ensure the integrity and financial soundness in the industry, the primary work of the IRDAI revolves around the interest of the policyholder. Let us catch a look at the various roles of the IRDAI:

- To issue the certificate of registration to new insurance companies.
- Establish rules and regulations to take care of the interests of the policyholders.
- To monitor claim settlements in a fair manner, and ensure that no claim is denied by the insurance company under their free will.
- To regulate the code of conduct of the insurance company and of those associated with the insurance industry.
- Address issues and provide solutions in case of disputes which have risen via the IRDAI ombudsman.
- Regulate and control the rate of insurance to impede undesirable and superfluous price hikes in insurance premiums which might cause distress to the policyholder.
- The IRDAI is also accountable for setting a minimum percentage limit of insurance companies for both Life Insurance and General Insurance.
- IRDAI is also responsible for granting licenses to insurance agents. It issues licenses to individuals to clear the required exam. It was integrated with the IRDAI regulations and comprised the rules for applying and acquiring an insurance agent license.

Benefits of IRDAI: Given below are some of the leading features and benefits of the Insurance Regulatory and Development Authority of India (IRDAI).

- Acts as a regulatory body for the insurance industry.
- Safeguards the interests of the policyholder.
- Rules and regulations are established by the IRDAI under Section 114A of the Insurance Act of 1938.
- IRDAI has the authority to grant certificates of registration to new insurance companies who wish to operate in India.
- IRDAI oversees the activities of the insurance industry to guarantee the persistent development of both the insurance company and the policyholder.
- IRDAI can control and regulate insurance rates, terms and conditions, and advantages that are offered by the insurance providers to the policyholders.
- IRDAI also undertakes inspections and conduct audits of insurance companies, mediator parties and other organisations who are associated with the insurance business to keep an eye out for malpractices and safeguard policyholders against fraud.
- IRDAI can specify the code of conduct, training and qualifications for insurance agents.

IRDAI Guidelines for Claim Settlement: Here are a few IRDAI guidelines for claim settlement that Insured should be aware of:

- As per regulation 27(i), the insurance company or insurer should either settle a claim or reject it within thirty days of receiving all the documents required.
- As per regulation 27(ii), any document not listed under the policy shall not be treated as absolutely necessary unless foul play is suspected. Furthermore, all the additional documents that are asked for must be taken as a one-time call rather than as per time-specific requirements.
- Regulation 27(iv) states that in order to make a claim, the insurer must provide a certain time period within which all the documents need to be submitted. Additionally, if the policyholder fails to provide these documents within the required window and asks for a claim after, then the settlement can be done provided

there is a valid cause for the delay

- As per regulation 27(v), every claim that is settled must be in accordance with the policy's terms and conditions.

IRDAI and SEBI on their Functions: Here are a few points of difference between IRDAI and SEBI:

IRDA	SEBI
Established-1999	Established-1992
Looks after the interests of insurance holders	Looks after the interests of investors
Provides certificate of registration to insurance companies for issuing insurance policies	Provides certificate of registration to bankers and brokers for issuing deeds.
Looks after the insurance industry	Looks after the securities and commodities industry
Frames terms and conditions as per IRDAI (Insurance Regulatory and Development Authority of India Act)	Frames terms and conditions as per SEBI (Securities and Exchange Board of India Act)

Rules and Guidelines for Health and Mediclaim Insurance by IRDAI: The IRDAI is the primary authority in charge of developing new health insurance policies and recommendations. In 2020, the regulator released new IRDAI rules for health and medical insurance, which are as follows:

Claims Rejection: The insurer cannot reject the claim if the policyholder has renewed the policy for eight years without an interruption or lapse. The moratorium period will be in effect throughout this time. Except in fraud cases or when the claim is brought against a policy exclusion, the insurer cannot appeal the claim denial to the IRDAI.

Inclusion of Telemedicine: The medical service has altered with the advent of digitization, and one can now visit a doctor via online consultations. The Insurance Regulatory and Development Authority of India (IRDAI) has ordered insurers to incorporate telemedicine consultations in their policies.

Claim Settlement: If an insurer fails to settle a claim within a reasonable time, the insurer is obligated to pay interest on the claim amount. It should ensure that the claim is settled within 30 to 45 days of the policyholder submitting the final document.

IRDAI is a regulatory body that is responsible for everything right and wrong any insurance company does. Insured can either contact them or let them know about Insured grievances if the insurance company denies to answer. Insured can also raise any queries about the insurance policy and insurer in case of a fraud. In either way, the role of IRDAI is very significant for complete transparency and making changes to the rules and regulations from time to time.

Exercise

A. Theoretical Questions

⊙ Multiple Choice Questions

1. A nomination can be made only in favour of
 - a) Parents
 - b) Spouse and children
 - c) Spouse
 - d) Parents, spouse and children
 - e) Any individual
2. Select the expanded form of SA as commonly used in life insurance
 - a) Sum Assured
 - b) Surrender of Assurance
 - c) Supplementary Assurance
 - d) Stamp Act
 - e) Survivor's Annuity
3. Which product offered by insurance companies that, unlike a pure insurance policy, gives investors both insurance and investment under a single integrated plan?
 - a) Money Back Plan
 - b) Endowment Plans
 - c) Term Insurance Plans
 - d) Unit-linked insurance plan
 - e) Micro Insurance Plans
4. In which Policy, if the policyholder survives till the end of this period, the risk cover lapses, and no insurance benefit payment is made to him/her?
 - a) Money Back Plan
 - b) Endowment Plans
 - c) Term Insurance Plans
 - d) Unit-linked insurance plan
 - e) Micro Insurance Plans
5. In which Policy, the insurer agrees to pay the assured or his nominees a specified sum of money on his death or on the maturity of the policy whichever is earlier?
 - a) Money Back Plan
 - b) Endowment Plans
 - c) Annuity Policy
 - d) Unit-linked insurance plan
 - e) Micro Insurance Plans
6. As per the Insurance Act, every insurer has to prepare at the end of financial year
 - a) Balance Sheet
 - b) Profit and Loss Account

- c) Revenue Account for each class of Insurance business
 - d) Accounts of receipts and payments in respect of shareholders' funds
 - e) All of the above
7. _____ are agents but they can sell policies of several life and non-life insurance companies at a time.
- a) Loss assessors
 - b) Brokers
 - c) Insurer
 - d) Insured Insurance Awareness MCQs LIC Assistant Exam 2019
 - e) Surveyors
8. _____ is a voluntary termination of the contract by the policy holders.
- a) Report
 - b) Surrender
 - c) Prospectus
 - d) Cover note
 - e) Claim
9. Which of the following is contract between two insures i.e. original insurer and another insurer?
- a) Premium
 - b) Cover note
 - c) Reinsurance
 - d) Co-insurance
 - e) Double Insurance
10. Which of the following involves proportionate sharing of the insurance among more than one insurer?
- a) Premium
 - b) Cover note
 - c) Reinsurance
 - d) Co-insurance
 - e) Double Insurance
11. When the amount for which a subject matter is insured is more than its actual value, it is called _____
- a) Premium
 - b) Cover note
 - c) Reinsurance
 - d) Co-insurance
 - e) Double Insurance
12. A person whose risk is insured is called.....
- a) Insured
 - b) merchandiser
 - c) marketer
 - d) Agents
 - e) None of the above

13. When was life insurance sector nationalized?
- 1952
 - 1956
 - 1986
 - 1984
 - 1951
14. Risk retention means-----
- Saving money to pay for the losses
 - Accepting and agreeing to finance the loss oneself
 - Not taking up any activity which is risky
 - Insuring the risk
 - Insuring the finance
15. Pure risk was grouped
- Property Risk
 - Personal Risk
 - Liability risk
 - All the above
 - None of the above
16. Policy matures on the assured death or on his attainment of a particular age whichever occurs earlier
- Endowment
 - Money back
 - Joint life
 - Single premium
17. The risk which arises because of change in major economic. Social, cultural and political factors are
- Particular Risk
 - Fundamental Risk
 - Speculative Risk
 - Dynamic Risk
18. Insurance covers.....
- Protect assets
 - Prevents loss
 - Reduces the impact of loss
 - Insurances immortality

Answers:

1.	(e)	2.	(a)	3.	(d)	4.	(c)	5.	(b)
6.	(e)	7.	(b)	8.	(b)	9.	(c)	10.	(d)
11.	(e)	12.	(a)	13.	(b)	14.	(b)	15.	(d)
16.	(a)	17.	(b)	18.	(c)				

CASE STUDIES:

Case-1

Should an insurance claim be paid to insured or financier?

Inder Singh Chauhan had purchased a bus by taking a loan from Swami Financers. The bus was being used as a private service vehicle, and not as a public transport one. It was insured under a comprehensive insurance policy issued by United India Insurance. The bus met with an accident, for which insurance was claimed. The insurance company appointed its surveyor, who assessed the loss at ₹1,26,500. However, the company deducted ₹33,125 from the assessed amount, on the ground that the driver did not have an endorsement on his licence to drive a transport vehicle. Even this amount was not paid to Chauhan, but was directly paid to the financier.

Aggrieved, Chauhan filed a consumer complaint that ultimately reached the National Commission. It was held that once a person had a licence to drive a heavy goods carriage vehicle, it would mean that he/she was entitled to drive a transport vehicle, including a public service vehicle. Accordingly, the insurance company was directed to pay the balance amount, along with 12 per cent interest and costs of ₹ 5,000.

The commission also ruled that the practice adopted by insurance companies of directly paying to the financier, without informing the insured or without his consent, cannot be justified. If the insurance policy is taken in the name of the vehicle purchaser, there is no question of paying the amount straightaway to the financier. [United India Insurance Co Ltd v/s Inder Singh Chauhan – IV (2006) CPJ 15 (NC)].

Case-2

Can an insurance company independently challenge the award under a professional indemnity policy?

During a gall bladder surgery, Mohinder Kaur developed ventricular tachycardia, followed by ventricular fibrillation. She suffered cardiac dysrhythmia and went into coma due to medical negligence, becoming bedridden at the age of 45. A case was filed against the surgeon, the anaesthetist and the hospital. The insurance company was a party to the proceedings. The District Forum awarded a compensation of ₹ 2 lakh, payable by the insurance company on behalf of the doctors under the professional indemnity policy. This was challenged in appeal before the State Commission, which upheld the Forum's order. The doctors did not continue further litigation, but the insurance company filed a revision petition before the National Commission.

Observing that it was incumbent on the insurance company to indemnify doctors under the professional indemnity policy by paying the amount awarded by the consumer fora, the commission stated the challenging of the order by the insurance company without rhyme or reason is neither proper nor desirable. The commission expressed deep anguish that such petitions were being filed. It observed that such cases are not meant to be fodder for the legal department and the insurance company cannot go on a spree in filing such petitions. The commission stated it was restraining itself this time, but warned that if such petitions are filed in future, heavy cost would be imposed. The agony of a consumer must end at some stage. It is the duty of the insurance company to see that frivolous cases were not filed so as to clog the wheels of justice, which result in wastage of time. While dismissing the revision petition, the commission directed the order be sent to the chairman-cum-managing directors of all insurance companies. [New India Assurance Co Ltd v/s Hardip Singh & Others – II (2003) CPJ 103 (NC)].

Caselet-1:

True Ltd. is engaged in the business of manufacturing garments and has an office in New Delhi. The company is operating from rented premises. Management of the company decided to have its building/premises considering the requirement of more space and also to reduce the fixed expenses in the future.

Accordingly, the plan was made and fund arranging exercise begun. The funds available with the company were enough considering the current cost of construction. But management fears that construction costs will rise in the times to come and then the company may face a financial crunch. Management of the company seeks your guidance as to whether there is any way out that the risk of future price rise in construction costs can be handled/mitigated. Guide them suitably.

Solution:

Risk transfer is another technique for handling risk. Risks can be transferred by several methods. Some of the methods are:

- (i) Transfer of Risk by Contracts.
- (ii) Hedging Price Risks and
- (iii) Conversion to Public Limited Company.

In the given case, Transfer of Risk by Contract can be suggested. Unwanted risks can be transferred by contracts. For example, the risk of a defective television or stereo set can be transferred to the retailer by purchasing a service contract, which makes the retailer responsible for all repairs after the warranty expires. The risk of a substantial rent increase can be transferred to the landlord by a long-term lease. The risk of a substantial price increase in construction costs can be transferred to the builder by having a firm price in the contract rather than a cost-plus contract.

Insurance Intermediaries, General Insurance, Health Insurance and Life Insurance

7

This Module includes:

7.1 Insurance Intermediaries

7.2 General Insurance

7.3 Concept and Types of Health Insurance Policies

7.4 Structure and Type of Re-insurance

7.5 Life Insurance

Insurance Intermediaries, General Insurance, Health Insurance and Life Insurance

SLOB Mapped against the Module

To develop a detail understanding of the general structure and administration of an insurance company to better identify the sources of risk and categorise various types of risks. (CMLO 1c)

Module Learning Objectives

Insurance is a legal agreement between an individual and the insurance company, under which, the insurer promises to provide financial coverage (Sum assured) against contingencies for an amount (premium). The types of insurance in India can be broadly divided into two categories: a) General Insurance including Health Insurance and b) Life Insurance. An Insurance Intermediary means individual agents, corporate agents including banks and brokers -they intermediate between the customer and the insurance company. Insurance Intermediary also includes Surveyors and Third-Party Administrators but these intermediaries are not involved in the procurement of business.

This chapter would help in understanding:

- The role of various intermediaries in the Insurance Business, like Agents, TPAs, Surveyors etc.
- The Process of mobilizing Insurance premiums and settlement of Claims in General Insurance, Health Insurance and Life Insurance.
- Meaning, the importance of Re-insurance Business in Insurance Business.

In India, insurance has a deep-rooted history. It finds mention in the writings of Manu (Manusmrithi), Yagnavalkya (Dharmasastra) and Kautilya (Arthasastra). The writings talk in terms of pooling of resources that could be re-distributed in times of calamities such as fire, floods, epidemics and famine. This was probably a pre-cursor to modern day insurance. Ancient Indian history has preserved the earliest traces of insurance in the form of marine trade loans and carriers' contracts. Insurance in India has evolved over time heavily drawing from other countries, England in particular.

1818 saw the advent of life insurance business in India with the establishment of the Oriental Life Insurance Company in Calcutta. This Company however failed in 1834. In 1829, the Madras Equitable had begun transacting life insurance business in the Madras Presidency. 1870 saw the enactment of the British Insurance Act and in the last three decades of the nineteenth century, the Bombay Mutual (1871), Oriental (1874) and Empire of India (1897) were started in the Bombay Residency. This era, however, was dominated by foreign insurance offices which did good business in India, namely Albert Life Assurance, Royal Insurance, Liverpool and London Globe Insurance and the Indian offices were up for hard competition from the foreign companies.

In 1914, the Government of India started publishing returns of Insurance Companies in India. The Indian Life Assurance Companies Act, 1912 was the first statutory measure to regulate life business. In 1928, the Indian Insurance Companies Act was enacted to enable the Government to collect statistical information about both life and non-life business transacted in India by Indian and foreign insurers including provident insurance societies. In 1938, with a view to protecting the interest of the Insurance public, the earlier legislation was consolidated and amended by the Insurance Act, 1938 with comprehensive provisions for effective control over the activities of insurers.

The Insurance Amendment Act of 1950 Abolished Principal Agencies. However, there were a large number of insurance companies and the level of competition was high. There were also allegations of unfair trade practices. The Government of India, therefore, decided to nationalize insurance business.

An Ordinance was issued on 19th January, 1956 nationalising the Life Insurance sector and Life Insurance Corporation came into existence in the same year. The LIC absorbed 154 Indian, 16 non-Indian insurers as also 75 provident societies—245 Indian and foreign insurers in all. The LIC had monopoly till the late 90s when the Insurance sector was reopened to the private sector.

The history of general insurance dates back to the Industrial Revolution in the west and the consequent growth of sea-faring trade and commerce in the 17th century. It came to India as a legacy of British occupation. General Insurance in India has its roots in the establishment of Triton Insurance Company Ltd., in the year 1850 in Calcutta by the British. In 1907, the Indian Mercantile Insurance Ltd, was set up. This was the first company to transact all classes of general insurance business.

1957 saw the formation of the General Insurance Council, a wing of the Insurance Association of India. The General Insurance Council framed a code of conduct for ensuring fair conduct and sound business practices.

In 1968, the Insurance Act was amended to regulate investments and set minimum solvency margins. The Tariff Advisory Committee was also set up then.

In 1972 with the passing of the General Insurance Business (Nationalisation) Act, general insurance business was nationalized with effect from 1st January, 1973. 107 insurers were amalgamated and grouped into four companies, namely National Insurance Company Ltd., the New India Assurance Company Ltd., the Oriental Insurance Company Ltd and the United India Insurance Company Ltd. The General Insurance Corporation of India was incorporated as a company in 1971 and it commenced business on January 1st 1973.

This millennium has seen insurance come a full circle in a journey extending to nearly 200 years. The process of re-opening of the sector had begun in the early 1990s and the last decade and more has seen it been opened up substantially. In 1993, the Government set up a committee under the chairmanship of RN Malhotra, former Governor of RBI, to propose recommendations for reforms in the insurance sector. The objective was to complement the reforms initiated in the financial sector. The committee submitted its report in 1994 wherein, among other things, it recommended that the private sector be permitted to enter the insurance industry. They stated that foreign companies be allowed to enter by floating Indian companies, preferably a joint venture with Indian partners.

Following the recommendations of the Malhotra Committee report, in 1999, the Insurance Regulatory and Development Authority (IRDA) was constituted as an autonomous body to regulate and develop the insurance industry. The IRDA was incorporated as a statutory body in April, 2000. The key objectives of the IRDA include promotion of competition so as to enhance customer satisfaction through increased consumer choice and lower premiums, while ensuring the financial security of the insurance market.

The IRDA opened up the market in August 2000 with the invitation for application for registrations. Foreign companies were allowed ownership of up to 26%. The Authority has the power to frame regulations under Section 114A of the Insurance Act, 1938 and has from 2000 onwards framed various regulations ranging from registration of companies for carrying on insurance business to protection of policyholders' interests.

In December, 2000, the subsidiaries of the General Insurance Corporation of India were restructured as independent companies and at the same time GIC was converted into a national re-insurer. Parliament passed a bill de-linking the four subsidiaries from GIC in July, 2002.

Today there are 34 general insurance companies including the ECGC and Agriculture Insurance Corporation of India and 24 life insurance companies operating in the country.

The insurance sector is a colossal one and is growing at a speedy rate of 15-20%. Together with banking services, insurance services add about 7% to the country's GDP. A well-developed and evolved insurance sector is a boon for economic development as it provides long-term funds for infrastructure development at the same time strengthening the risk-taking ability of the country.

Insurance Intermediaries

7.1

Insurance is considered a complex product, and it is not easy for the insurer to take care of all the processes involved in sales and administration of related services. An insurance intermediary acts as a bridge between the insurance provider and the end customer. They could be involved in the sales process like an insurance agent or an insurance broker, or the claims process like a surveyor or a third-party administration. Let us look at each of the intermediaries in some detail below.

Agent: An agent is an individual or a corporation that is authorised to solicit and procure insurance business for the insurance company they represent. The business could be related to renewal and revival of existing policies or sale of new policies. An agent who represents both a life insurer and a general insurer is known as a Composite Insurance Agent.

Insurance Broker: An insurance broker is an individual licenced by IRDAI to arrange insurance contracts with an insurer on behalf of a client. A broker can represent multiple insurance companies.

Broker Vs. Agent: An agent is permitted to represent only one insurance company within a sector i.e., a general insurer, a life insurer, or both, but not two general insurers. A broker can represent multiple general or life insurers or both. IRDAI licences both agents and brokers for general insurance or life insurance or both. They have to follow the code of conduct laid down by IRDAI under respective regulations.

It is important to remember that neither an agent nor a broker can give a discount on the premiums to be paid for the insurance policy. Any such offer would be against Section 41 of the Insurance Act. Only an insurance company can offer a discount on premium, and it has to be in accordance with the policy's terms and conditions.

Surveyor: A surveyor or a loss assessor plays the role of determining the extent of damage sustained by the insured. When a loss event occurs, the insured and the insurer may not agree on the actual loss. An independent surveyor brings them on the same page. To be a surveyor or loss assessor, the company or the individual has to meet the criteria laid out by IRDAI. The criteria vary based on the kind of surveys to be performed. For example, a surveyor for motor insurance must be either a mechanical engineer or an automobile engineer. On the other hand, a surveyor for marine insurance must be a marine engineer or a naval architect. A surveyor is engaged only if the claimed losses are over ₹ 50,000 in motor insurance or over ₹ 1 lakh in other insurance. These limits are reviewed and revised by IRDAI every three years.

Third-Party Administrator: Third-party administrator or TPA is an organisation that has been licensed by IRDAI to process claims and provide cashless facility. Insurance companies outsource claim management or some aspects thereof to TPA with an aim to provide a quick turnaround to end customers. They act as an intermediary between the insurance provider, the policyholder and a service provider (for example, a hospital in the case of health insurance and a mechanic in case of motor insurance). While TPAs can be involved with various aspects of claim processing, their primary responsibility is to provide cashless services, especially cashless hospitalisation.

These are the primary insurance intermediaries currently defined by IRDAI. They can add other intermediaries based on the evolution of the insurance industry. Intermediaries help in achieving standardisation of the service provided and allow insurers to achieve greater efficiency. Further, they also help increase insurance penetration in a wide market like India.

7.1.1 Insurance Agents:

Individual Agents:

These are individuals who can be appointed by an insurance company to sell insurance policies on their behalf.

As per Section 42 of the Insurance Act, 1938, an insurer may appoint any person to act as insurance agent for the purpose of soliciting and procuring insurance business.

No person shall act as an insurance agent for more than one life insurer, one general insurer, one health insurer at a time.

Provided that the Authority shall, while framing regulations, ensure that no conflict of interest is allowed to arise for any agent in representing two or more insurers for whom he may be an agent.

Following are the disqualifications of an Insurance Agent:

1. that the person is a minor;
2. that he is found to be of unsound mind by a court of competent jurisdiction;
3. that he has been found guilty of criminal misappropriation or criminal breach of trust or cheating or forgery or an abetment of or attempt to commit any such offence by a court of competent jurisdiction; Provided that where at least five years have elapsed since the completion of the sentence imposed on any person in respect of any such offence, the Authority shall ordinarily declare in respect of such person that his conviction shall cease to operate as a disqualification under this clause;
4. that in the course of any judicial proceeding relating to any policy of insurance or the winding up of an insurer or in the course of an investigation of the affairs of an insurer it has been found that he has been guilty of or has knowingly participated in or connived at any fraud, dishonesty or misrepresentation against an insurer or insured;
5. that he does not possess the requisite qualifications or practical training or passed the examination, as may be specified by the regulations;
6. that he has not passed such examination as may be specified by the regulations;
7. that he has violated the code of conduct as may be specified by the regulations.

Pursuant to the powers given under Section 42 of Insurance Act, 1938, IRDAI have framed Regulations for regulating the Individual Insurance Agents. Key highlights of the Regulations are given hereunder:

- Every insurer to have a Policy on Individual Agents approved by Board to be in place specifying:
 - ▲ Minimum age;
 - ▲ Qualifications is minimum X passed recommended;
 - ▲ Pre-recruitment Training requirements & Skill development training by Insurer (not less than 25 hours for Pre-recruitment Training);
 - ▲ Remuneration to Individual Agents.
- Every insurer to also have a Board approved Policy on Commission & remuneration to Agents & Intermediaries, giving broad framework on Commission & Rewards to Agents, Eligibility for Commission after Termination, Orphan Policies allocation etc.
- Interview procedure shall also be specified by the Policy.
- PAN mandatory for appointment of Insurance Agents.
- All candidates to undergo 50 hours pre-recruitment training to be conducted by an Authorised body and

pass an examination to be conducted by Insurance Institute of India / authorised body.

- ⦿ Registration Certificate issued by IRDAI to Agents.
- ⦿ Insurer to screen the names of candidates with the with prohibited lists the Centralized list of blacklisted agents, Agents working with other Companies – to ensure that there is no backdoor entry by persons who have committed fraud in the past.
- ⦿ Appointment letter & ID card to be issued by the Company.
- ⦿ Insurance companies may refuse to appoint an Agent. Agents may appeal against refusal to the Appellate Authority appointed within the Insurance company.
- ⦿ Procedure for Agency Performance Review, Suspension & Resignation of Agents to be laid down.
- ⦿ Details of Individual Agents (as well as corporate /agents) to be published on Insurer's website.

Corporate Agents:

In the case of a Corporate Agency, a Partnership firm or a Company may apply for doing insurance agency, as against individuals which we saw earlier. However, unlike Individual agent who can work for only 1 insurer in a line of business (Life/Non-Life/Standalone health), a corporate agent is allowed to work for upto 3 insurers in each line of business. Therefore, a corporate agent can work up to a maximum of 9 insurers, with a cap of 3 insurers in each line of business.

Following are the key provisions under the IRDAI (Registration of Corporate Agents) Regulations, 2015:

- ⦿ Maximum tie ups for a Corporate Agent: Maximum 3 insurance companies – in life, non-life and Health insurance separately or a Composite licence for all categories.
- ⦿ Two types of corporate agencies: Exclusive & non-exclusive corporate agencies - An exclusive corporate agent is one who does only insurance solicitation and a non-exclusive corporate agent is one whose primary business is something different and insurance solicitation is a secondary line of business. For example, Banks are Non-exclusive Corporate agents whose primary business is banking and secondary business is insurance solicitation.
- ⦿ Minimum capital and net worth requirement: only for exclusive corporate agents: ₹ 50 lakhs.
- ⦿ At least 1 Principal Officer & as many Specified Persons as required to be appointed: A Principal Officer, an employee of the corporate agent, is the Primary person responsible for the Corporate Agency and shall be accountable to IRDAI for compliance with the Regulations. He may be the CEO for the Corporate agency business. A Specified Person is an employee of the corporate agency entity responsible for solicitation of insurance business. Only Specified Persons and Principal Officers are eligible to sell on behalf of the corporate agent.
 - a) Principal Officer is a Director, Partner or a designated employee of the Corporate Agent who:
 - is at least a Graduate;
 - Is responsible for overall supervision of the Corporate Agent;
 - has undergone 50 hours Practical Training (25 hours for those possessing insurance qualifications) at recognised Training Institutes;
 - has passed the examination conducted by the approved examination body.
 - b) Specified Person ('SP') is an employee of the Corporate Agent responsible for soliciting or procuring insurance business on behalf of the Corporate Agent and who:
 - Is at least 12th Standard passed.

- Has undergone the 50 hours training (75 hours for composite) from approved training institution.
- And passed the examination as specified above.
- c) Certificate issued to Specified Person valid for 3 years.
- d) Common Directors, Principal Officers & SPs between Corporate agents prohibited
- e) Foreign equity for Exclusive Corporate Agents capped at 49% subject to the condition that the Exclusive Corporate Agent shall be “Indian owned and controlled”, However, for non-exclusive Corporate Agents like Banks, foreign equity allowed to be more than 49%, provided their income from non-insurance business remains above 50% in any financial year.
- f) Any change in ownership of an exclusive corporate agent beyond 25% requires prior IRDAI approval.
- g) Separate books of account to be maintained for corporate agency business
- h) Corporate agent subject to direct supervision and inspection by IRDAI (erstwhile regulations provided supervision through the insurer with whom the corporate agent had tied up).
- ⦿ Professional Indemnity Insurance Policy to be taken by every Corporate Agent whose revenue from corporate agency is more than 50% of their total revenues:
 - a) Limits to indemnity: 2 times the remuneration of the Corporate Agent subject to a minimum of ₹15 lakhs and maximum of ₹100 Crores.
- ⦿ Board approved Policy for Open architecture :
 - a) To cover the manner of soliciting or procuring insurance business.
 - b) Philosophy of open architecture and methodology i.e., in what manner will the Corporate Agent work for up to 3 insurers including selling process, recommending the right insurance product to customer etc.
 - c) Business mix, products sold, grievances handling mechanism etc. to also be included in the Policy.
- ⦿ Filings with the Authority:
 - a) Board approved Policy for Open architecture.
 - b) Half yearly returns on business sourced insurer-wise in Life, Non-Life and Health lines of businesses separately.
- ⦿ Disclosures to IRDAI by the Corporate Agent :
 - a) Any material changes to the information provided at the time of registration shall be notified within 30 days of change.
 - b) Intimation about initiation of proceedings by any other regulator or Government body within 30 days of such initiation.
 - c) Details of opening and closing of Branch offices.
 - d) Details of specified person Branch office-wise along with their Certificate number.
 - e) Distribution agreements with insurers to be intimated within 30 days of entering into agreement – minimum period 1 year – no insurer can compel a corporate agent to sell for an insurer.
 - f) Yearly filing of the Annual Accounts by 30 September for the previous financial year along with marks/ observations of Statutory Auditors.

- Records to be maintained by the Corporate Agent :
 - a) Records of KYC as required under the Prevention of Money Laundering Rules;
 - b) Copy of Proposal form, with Agent's Confidential Report duly signed by the concerned Specified Person;
 - c) Policy Register;
 - d) Complaints Register;
 - e) Specified Persons Register;
 - f) Copies of correspondence exchanged with IRDAI;
 - g) Financial Statements including annual Balance Sheet, Profit and Loss account etc. – details of payments made to and payments received from Group entities of corporate agents to be separately disclosed in the accounts. Non-exclusive corporate agents to separately capture the income from insurance intermediation in their books of account;
 - h) Records to be maintained for a minimum period of 10 years.
- **Remuneration to Corporate Agent paid by the Insurer for soliciting insurance business:**
 - a) Payment of remuneration to be governed by IRDAI by way of ceilings under Commission
 - b) Regulations, subject to Commission as per "file & use" for each Product approved by IRDAI.
 - c) No signing fee or any other similar charges can be paid by insurer to corporate agent.
 - d) No insurer shall directly pay incentives (cash or non-cash) to the Principal Officer, Specified
 - e) Persons or any other employee of a Corporate Agent.

7.1.2 Surveyors and Loss Assessors:

Regulation 12 of the IRDAI (Insurance Surveyors and Loss Assessors) Regulations, 2015 mandates appointment of Surveyors and Loss Assessors either by Insurance or Insurer to assess loss under a policy of Insurance in respect of (a) Motor Insurance - above ₹50,000/- (b) other than Motor Insurance above ₹ 1,00,000/-. Further the required qualification to become surveyor has also laid down in Annexure-I of schedule I of the above said Regulation. A surveyor & Loss Assessor shall assess losses of only those departments which are specified in his/her license.

IRDAI (Insurance Surveyors and Loss Assessors) Regulations, 2015

The enactment of IRDA Act, 1999, authorized IRDAI to licence eligible persons to act as Surveyor and Loss Assessors (SLA). IRDAI framed the (Insurance Surveyors & Loss Assessors) Regulations, 2015 under powers vested under Section 42D, 42E, 64 UM and 114A of the Insurance Act, 1938 and section 14 and 26 of IRDA Act, 1999. The said regulations, specifies the eligibility criteria, training and examination requirements for grant of licence to applicants to act as Surveyor and Loss Assessors. The said regulations also specify the Duties and Responsibilities & Code of Conduct for surveyors licensed by IRDAI. The Code of Conduct specifies the professional and ethical requirements for conduct of their professional work. It elaborates on the code which, inter alia, stipulates that a surveyor and loss assessor shall behave ethically and with integrity in professional pursuits, shall strive for objectivity in professional and business judgment, act impartially when acting on instructions from an insurer in relation to a policyholder's claim under a policy issued by that insurer, conduct himself with courtesy and consideration to all people with whom he comes into contact during the course of his work.

Licenses are issued to both individuals and firms/companies to act as Surveyor and Loss Assessors. There are eight areas in which surveyors could be licensed to work, depending on their qualifications. These are Fire, Motor, Miscellaneous, Engineering, Marine cargo, Marine Hull, Loss of Profit and Crop Insurance.

IRDAI is empowered to cancel the licence of Surveyors & Loss Assessors where it is found that he/she suffers from any of the disqualifications mentioned in section 42D of the Insurance Act, 1938 or has knowingly contravened any provisions of the Insurance Act 1938 or the IRDA Act, 1999 or the Rules and Regulations made under these Acts. The regulations are available on our website: www.irda.gov.in.

Further the IRDA (Protection of Policyholders' Interests) Regulations, 2002 also stipulates the time limit for appointment of surveyors, which is 72 hours from date of intimation of claim to insurers/ occurrence of the event resulting in loss or damage and submission of survey report by surveyors, which is one month from the date of appointment by insurer.

The said regulation casts responsibility on the policyholder to co-operate with the surveyor and provide him with all the information/ documents to enable him to assess the loss.

Delay, if any, in the submission of the report by the surveyor should be communicated to the insurer and insured.

Duties and Responsibilities of a Surveyor and Loss Assessor:

It shall be the duty of every Licensed Surveyor and Loss Assessor to investigate, manage, quantify, validate and deal with losses (whether insured or not) arising from any contingency, and report thereon to the insurer or insured, as the case may be., All Licensed Surveyors and Loss Assessors shall carry out the said work with competence, objectivity and professional integrity and strictly adhere to the code of conduct as stipulated in these

Regulations:

1. The following, shall, inter alia, be the duties and responsibilities of a Surveyor and Loss Assessor:

- Declaring whether he has any interest in the subject matter in question or whether it pertains to any of his relatives, business partners, or through material shareholding;

Explanation:

For the purpose of this clause 'relatives' shall mean any of the relatives as defined in Subsection (77) of Section 2 of the Companies Act, 2013;

- Bringing to the notice of the Authority, any change in the information or particulars furnished at the time of issuance of the license, within a period not exceeding fifteen days from the date of occurrence of such change that has a bearing on the license granted by the Authority
- Maintaining confidentiality and neutrality without jeopardizing the liability of the insurer and claim of the insured;
- Conducting inspection and re-inspection of the property in question suffering a loss;
- Examining, inquiring, investigating, verifying, and checking upon the causes and the circumstances of the loss in question including the extent of loss, nature of the ownership and insurable interest;
- Conducting spot and final surveys, as and when necessary, and comment upon the franchise, excess/under insurance, and any other related matter;
- Estimating, measuring, and determining the quantum and description of the subject under loss;
- Advising the insurer and the insured about loss minimization, loss control, security, and safety measures, wherever appropriate, to avoid further losses;
- Commenting on the admissibility of the loss as also the observance of warranty conditions under the policy contract;
- Surveying and assessing the loss on behalf of an insurer or insured;
- Assessing liability under the contract of insurance;
- Pointing out discrepancies, if any, in the policy wordings;

- Satisfying queries of the insured/insurer and of persons connected thereto in respect of the claim/loss;
 - Recommending applicability of depreciation, percentage, and quantum of depreciation;
 - Giving reasons for repudiation of claim, in case the claim is not covered by policy terms and conditions;
 - Taking expert opinion, wherever required;
 - Commenting on salvage and its disposal wherever necessary.
2. A surveyor or loss assessor whether appointed by an insurer or insured, shall submit his report to the insurer as expeditiously as possible, but not later than 30 days of his appointment, with a copy of the report to the insured giving his comments on the insured's consent or otherwise on the assessment of loss. Where, in special circumstances of the case, either due to its special and complicated nature, the surveyor shall under intimation to the insured, seek an extension, in any case not exceeding six months from the insurer for submission of his report.
 3. In cases where the Survey report is pending due to non-completion of documents, the surveyor may issue the final survey report independently based on the available documents on record, giving a minimum of three reminders in writing to the insured.
 4. If an insurer, on the receipt of a survey report, finds that it is incomplete in any respect, he shall require the surveyor under intimation to the insured, to furnish an additional report on such incomplete issues. Such a request may be made by the insurer within 15 days of the receipt of the original survey report. Provided that the facility of calling for an additional report by the insurer shall not resort to more than once in the case of a claim.
 5. The surveyor on receipt of this communication shall furnish an additional report within three weeks of the date of receipt of communication from the insurer.

7.1.3 Insurance Brokers:

An Insurance Broker represents a client and not insurer and is therefore independent of the insurer. Unlike a Corporate Agent who can represent upto 3. insurers, Brokers can sell the products of any number of insurance companies. Sales practices of Broker do not bind the insurer, even though the insurer is liable on the contract issued to the customer. However, Consumer Courts & Ombudsmen hold insurers responsible for misrepresentation of Brokers. Following are the other features of the Insurance Broking model:

- 3 types of Brokers recognised – Direct, Reinsurance & Composite.
- Framework of training, examination and registration similar to that of corporate agent.
- Principal Officer to be appointed.
- Only employees who have undergone training, examination and are registered can sell on behalf of an insurance broker (equivalent of SP).
- No compensation permitted other than Brokerage.
- Broker cannot appoint agents or canvassers to bring in business.
- Minimum capital – ₹ 50 lakhs (Direct Broker).
- Shall exclusively carry-on insurance broking business.
- Foreign equity in insurance broking restricted to 49% subject to the insurance broking entity being “Indian owned and controlled”.
- Client concentration: Business from one client not to exceed 50% of total premium.
- Group company concentration: A Broker cannot place more than 25% of the total business in a year with an insurance company within its Group.

- Deposit in Bank a sum equivalent to 20% of initial capital.
- Maintenance of minimum Professional indemnity cover of ₹ 50 lakhs.
- Submission of half yearly unaudited and yearly audited financial statements to the Authority.
- Approval of authority for changes to shareholdings and changes to Principal Officer.
- Claims consultancy services may be offered by a Broker to Policyholders for claim amounts not exceeding ₹1 Crore (excluding policies sourced by the Broker) for a fee which cannot be expressed as a % of claim amount.
- **One Branch one qualified employee:** Each Branch of the Insurance Broker shall have a qualified person to sell insurance on behalf the Insurance Broker.
- **Transfer of shares:** Transfer in favour of any person acquiring more than 5% shareholding after the transfer in the Broker entity shall be done only after prior IRDA approval.
- **Minimum net worth at all times:** Net worth of the Broker shall not fall at any time below the Capital (₹ 50 lakhs in the case of Direct Broker).
- **Delay beyond 60 days for licence renewal:** If the application for renewal of licence by a Broker is received by IRDA 60 days after expiry of the date of licence, renewal will be considered only 12 months after the date of expiry of the licence. In the interim, no new business can be logged in by the Broker, except for servicing of existing policies.
- **Online sales by Brokers:** Brokers can sell online by linking their website with the website of insurers.
- **Distance marketing by Brokers:** Brokers can engage in telemarketing either through authorised employees of the broker or outsourcing lead generation to telemarketing companies as per Distance Marketing Guidelines.
- **Auditors Report:** Auditors Report of the Broker entity shall also include status of compliance of the Broker with the Regulations.
- **Due date for submission of financial statements:** Due date for submission of financial statements extended to 30 September (earlier it was 30 June).
- **Half-yearly Chartered Accountant ('CA') Certificates:** Half yearly CA certificate to confirm compliance with key compliances including receipt of remuneration within the limits, minimum capital requirements, professional indemnity insurance policy etc.
- **Co-broking recognised:** Two or more Brokers can advise a client on purchase of insurance – sharing of remuneration between co-brokers to be done within the limits as per Regulations, as per Client's instructions.
- **International reinsurance broking:** Broking services for international reinsurances can be availed only through IRDA registered reinsurance brokers.
- **One group shall be issued only one Broker licence.**
- **Disclosure on material changes to IRDA:** Brokers required to disclose any material changes impacting their licence to IRDA.
- **Notification of changes:** Changes to Principal Officers, Directors etc. of Insurance Brokers, requires prior IRDA approval – intimation about opening/closure of offices, acquisition of immovable property etc. to be notified to IRDA.
- **Compliance Officer for Insurance Brokers to be appointed.**

Distance marketing

Distance marketing is a non-face-to-face method of selling insurance and includes telephonic mode of sale, through internet, emails, SMS and other forms of non-personal sales methods by insurers or brokers.

- ⊙ 3 models through Distance marketing:
 - ▲ Only lead generation (generating interest in buying insurance, no selling insurance).
 - ▲ Only solicitation (selling insurance).
 - ▲ Lead generation and solicitation (both generating interest and selling insurance).
- ⊙ Insurer can do distance marketing in the following ways:
 - ▲ Engage insurer's own authorised sales employees.
 - ▲ Sign up with a Call centre (Tele marketer) whose employees can do telemarketing.
- ⊙ A Corporate Agent/Insurance broker can do distance marketing in the following ways:
 - ▲ Engage Corporate Agent/Broker's own employees (Specified Persons in the case of Corporate Agent) who are authorised to sell.
 - ▲ Sign up with a Call centre (Tele marketer) for lead generation. In such cases the solicitation (closure of sale) can be done only by an authorised employee of the Broker.
 - ▲ Lead generation through employees called Tele callers, subject to:
 - ⊙ Tele callers to undergo 25-hour training and pass the assessment test conducted by Insurer or Broker.
 - ⊙ Selling can be done through employees of Call Centres called Authorised verifiers, subject to:
 - ▲ Authorised verifiers to undergo 50-hour training as applicable to SPs.
 - ▲ Pass the examination prescribed for SPs.
 - ▲ Tele callers can only do lead generation to collect details of the client and their intention to purchase insurance and includes all activities preceding solicitation.
 - ⊙ Authorised verifiers alone permitted to solicit and conclude the sale under the Distance marketing by a Call Centre.
- ⊙ Where an insurer engages Telemarketer only for lead generation, the leads obtained from Telemarketer can be passed on to insurer's own employees or to a Corporate Agent or to an Insurance Broker for closure of sale.
- ⊙ A Broker by his nature, cannot push or promote products of only one or few insurers as this could be serve counter-productive to customer's interests.
- ⊙ Scripts used by Telemarketers to be approved by Compliance Officers of insurer for lead generation and solicitation & filed with IRDA within 15 days.
- ⊙ Script to contain questions on customer consent, informing recording of conversation, language options, product features, benefits, exclusions, freelook options (30 days for distance marketing), toll free number.
- ⊙ Tele-caller lead generation script cannot contain questions specific to solicitation.
- ⊙ Specific responses of client in the form "Yes/No", "Agree/Disagree", "Understand/Don't understand" to be recorded.
- ⊙ Product restrictions in Telephonic mode:
 - ▲ Non-single Premium ULIPs – maximum premium ₹ 50,000.
 - ▲ Single Premium ULIPs – maximum premium ₹ 1,00,000.

- ✦ No Variable Insurance Product can be sold under Distance marketing.
- ⊙ All voice recordings to be preserved till 6 months beyond term of the policy or till satisfactory settlement of claim.
- ⊙ Proposal form can be in the form of voice record (if approved under 'file & use') and verbal transcript to be forwarded along with policy bond.
- ⊙ Email communications to have a provision for "unsubscribing".
- ⊙ Call verification by insurers:
 - ✦ 1% of live call monitoring - i.e., listening to live conversations as they happen.
 - ✦ 3% of calls leading to sales (observations made to be preserved for 3 years).
 - ✦ 3% of Policyholders under Distance marketing – verification calls (to be preserved for 3 years).

7.1.4 Third Party Administrators (TPAs):

The Insurance Regulatory and Development Authority set up a working committee in 2000 to suggest regulations for this new type of intermediary dealing with the administration of health insurance. The Committee was made up of representatives of the existing Third-Party Administrators, several public and private sector insurance companies (non-life) and members of the Insurance Regulatory and Development Authority. The committee deliberated on a white paper that was circulated by Insurance Regulatory and Development Authority and the result of these deliberations, over a period of one year, was a set of regulations notified as The Insurance Regulatory and Development Authority (Third Party Administrators - Health Services) Regulations 2001, on September 17, 2001. The regulations stipulated the eligibility, scope of services, capital requirements, solvency margins, operating guidelines and code of conduct for Third Party Administrators. The ~ regulations also maintained that TPAs were indeed intermediaries as per the scope of the Insurance Regulatory and Development Authority Act, 1999, and therefore were fully under the jurisdiction of the Insurance Regulatory and Development Authority.

To date, this is the only Insurance Regulatory and Development Authority regulation specific to health insurance. This regulation established Third Party Administrators (TPA), and the rules for their licensing as intermediaries in rendering healthcare for insured beneficiaries and promoting a "cashless system" with easier access to and faster settlement of covered benefits of medical expense covers. The regulation prescribes high educational and practice standards of individuals, operating and managing a Third-Party Administrator and requires adherence to a prescribed Code of Conducts. The salient features are as follows:

- ⊙ Only an organization registered under the Companies Act 1956 with a share capital of at least ₹ 10 million in equity shares can set up a Third-Party Administrator in health services.
- ⊙ Third Party Administrator will be required to start with a minimum working capital of ₹ 10 million at any point of functioning.
- ⊙ Foreign equity in Third Party Administrator is limited to 26 per cent. In case of any share transfer, exceeding 5 per cent of paid-up capital, IRDA has to be informed within 15 days of such transfer.
- ⊙ The primary object of the company should be to carry on business in India as a Third-Party Administrator in health services. It should not engage itself in any other business.
- ⊙ At least one of the directors shall be a qualified medical doctor registered with the Medical Council of India.
- ⊙ The CEO or CAO of the Third-Party Administrator should have successfully undergone a course in hospital management from an institution recognized by Insurance Regulatory and Development Authority and have passed the licentiate examination conducted by the Insurance Institute of India, Mumbai. Apart from this, he should have undergone practical training of at least three months in the field of health management.

- TPAs should have access to competent medical professionals to advise insurance companies and clients on various matters.
- TPAs should obtain license from Insurance Regulatory and Development Authority to function. The application fee is ₹20,000 and once the application is approved, another ₹30,000 has to be paid as licensing fee. The license will be renewed every third year by Insurance Regulatory and Development Authority. If the application is rejected, Third Party Administrator is not entitled to apply again within two years. The Third-Party Administrator should furnish all documents including the agreement with the insurance company while applying for license. This agreement should contain details of the remuneration that may be payable to the Third-Party Administrator by the insurance company.
- The Third-Party Administrator will be allowed to enter into an agreement with more than one insurer, and similarly insurance companies can engage more than one Third Party Administrators.
- The Third-Party Administrator has to spell out the scope of services that it will deliver, while entering into an agreement with an insurance company.
- Third Party Administrators shall not charge any fee from the clients.
- Insurance Regulatory and Development Authority guidelines do not permit marketing of health insurance policies by the Third-Party Administrator.
- Third Party Administrators would also have to maintain and report to Insurance Regulatory and Development Authority on transactions carried out on behalf of the insurer. The Authority expects Third Party Administrators to maintain all records properly and maintain professional confidentiality between the parties. The authority holds the power to monitor and check the performance of Third-Party Administrators from time to time. Third Party Administrator are expected to furnish to the insurance company and the 'authority an annual report and any other return as may be required by the Authority.
- The Insurance Regulatory and Development Authority has drawn up a code of conduct for the Third-Party Administrators, refraining them from trading in information, submitting wrong information to insurers, and making advertisements without prior approval of the insurer, among other things. Their license will be revoked under such instances.

While this regulation has prompted expanded consumer interest and confidence in medical expenses insurance, many believe that the regulation needs to be revisited and updated considering the changes occurring in the industry and the imperatives to provide quality healthcare. Moreover, there is growing evidence that the Third-Party Administrator System has not been effective in promoting quality of healthcare and in containing healthcare costs. Third Party Administrator business practices are quite often cited as one of the causes of the very high loss ratios in the current health insurance business.

Insurance Regulatory and Development Authority regulations place stringent conditions for licensing Third Party Administrators. Current regulation requires Third Party Administrators to meet a minimum equity capital of ₹ 10 million. The capital requirements for entering into this sector are not stringent. As a result, there may be a proliferation of players, not all of the best quality. A large number of players will mean pressure on margins. Besides this, Third Party Administrators need to set up infrastructure which would involve large investments, the payback period of which is likely to be long. Third Party Administrators face high operating risk of obtaining economies of scale necessary to break even. Volumes are critical because the revenue generation of Third-Party Administrators is linked to the number of policies, they undertake to administer.

The Authority publishes a list of approved TPAs from time to time, which is the final IRDAI approved list. It's advisable for all insurers, corporate clients and other health insurance enabling services, such as networked hospitals and diagnostic clinics, to review the same to ensure that the deal with approved and regulated TPAs. These entities, as well as all other regulated intermediaries, have their licensing requirements reviewed periodically at regular intervals, and if found lacking do not have their licenses renewed by IRDAI insurance.

7.1.5 Bancassurance:

With the opening up of the insurance sector and with so many players entering the Indian insurance industry, it is required by the insurance companies to come up with innovative products, create more consumer awareness about their products and offer them at a competitive price. New entrants in the insurance sector had no difficulty in matching their products with the customers' needs and offering them at a price acceptable to the customer. But insurance not being an off the shelf product and one which requiring personal counselling and persuasion, distribution posed a major challenge for the insurance companies. Further insurable population of over one billion spread all over the country has made the traditional channels of the insurance companies costlier. Also due to heavy competition, insurers do not enjoy the flexibility of incurring heavy distribution expenses and passing them to the customer in the form of high prices. With these developments and increased pressures in combating competition, companies are forced to come up with innovative techniques to market their products and services. At this juncture, banking sector with its far and wide reach, was thought of as a potential distribution channel, useful for the insurance companies. This union of the two sectors is what is known as Bancassurance.

Bancassurance is a new concept in financial services sector means using the bank's distribution channels to sell insurance products. The philosophy behind Bancassurance is to combine the manufacturing capability and selling culture of insurance companies with the distribution network and large receptive client base of banks. It is a phenomenon wherein insurance products are offered through the distribution channels of the banking services along with a complete range of banking and investment products and services. To put it simply, Bancassurance tries to exploit synergies between both the insurance companies and banks. Bancassurance if taken in right spirit and implemented properly can be win-win situation for the all the participants' viz., banks, insurers and the customer.

Need for Bancassurance:

The growth of Bancassurance as a distribution channel can be ascribed to the following:

Conducive environment : Progressive dismantling of laws relating to undertaking of insurance businesses by banks, increasing use of electronic channels and automation, growing needs for private retirement plans to complement public pensions, the concern for providing total financial services to customers, etc. have paved the way for Bancassurance.

Cost effectiveness: Insurers look to Bancassurance as an alternative cost-effective mode of distribution as against the costly agency services. It is estimated that 50% of the insurer's cost structure is directly or indirectly related to distribution

Fee-based income: A bank expects to increase its fee-based income and overall productivity by leveraging its branch network, brand image and client base by optimally using its assets/infrastructure and by positioning itself as an one-stop-shop with value-added service for its customers, thereby increasing customer loyalty and retention. Bancassurance enables a bank to satisfy the risk protection needs of its clients without assuming underwriting risk.

Fund Management: Life insurance (where premium is about 55% of the insurance premium worldwide) is a savings market. It is one of the methods to increase the deposits of banks. Both life and non-life insurance business provide additional flow of float funds besides fee-based income to banks, through the same channel of distribution and with the same people.

Innovations and efficiency: Increased convergence of banking and insurance would lead of melding of their corporate cultures, skill and synergising/innovating the marketing of financial services.

Models of Bancassurance: Different Bancassurance business models as given below are prevalent in different countries:

Distribution agreements: In simplest form called 'tied agent', the bank's personnel sell the products of one insurer exclusively, either in stand-alone basis or bundled with bank products.

Strategic alliance: This is a higher degree of intervention in product development, service provision and channel

management by way of bank investing sizably in insurance business without any contingent liability.

Joint venture: Here a large bank with a well-developed customer database partner with a large insurer with strong product and channel experience, to develop a powerful new distribution model. Alternatively, a bank and insurance company may agree to have cross holdings between them to share the profits.

Financial service group: Under further integration between a bank and insurer, an insurance company may build/buy a bank or a bank may build/buy an insurance company.

Thus, banks could associate themselves with insurance companies by becoming a distributor or by being a strategic investor or developing a joint venture or by becoming a promoter. Most of the bancassurance operations fall in the first model.

Advantages of Bancassurance:

Advantages to Banks:

- Productivity of the employees increases.
- By providing customers with both the services under one roof, they can improve overall customer satisfaction resulting in higher customer retention levels.
- Increase in return on assets by building fee income through the sale of insurance products. (Minimum investment and “No” risks)
- Can leverage on face-to-face contacts and awareness about the financial conditions of customers to sell insurance products.
- Generation of additional profits.
- Staff will be motivated through financial and other incentives.
- The “Tough” effective and efficient sales and marketing culture will have a favourable impact on the banks marketing function.
- Retention of “existing” and acquisition of “new” customers.
- Certain life insurance products will protect or minimize their risk exposure – mortgage or other loans, key man etc.
- Ability to sell bank products to life insurer’s clients.

Advantages to Insurers:

- Generation of additional sales.
- Increase in profits.
- Additional funds for investment.
- Ability to sell bank products to client base – generating additional profits.
- Sales force will be motivated through additional income and ability to offer more products to their clients and prospects.
- Retention of “Existing” and acquisition of “New” customers.
- The “Good” culture of the bank will have a favourable impact on the life insurer.
- Insurers can exploit the banks’ wide network of branches for distribution of products. The penetration of banks’ branches into the rural areas can be utilized to sell products in those areas.
- Customer database like customers’ financial standing, spending habits, investment and purchase capability can be used to customize products and sell accordingly.

- This channel allows an insurer to effectively tap the rural sector. Selling insurance through traditional methods in rural area is an expensive proposition.
- Since banks have already established relationship with customers, conversion ratio of leads to sales is likely to be high. Further service aspect can also be tackled easily.

Advantages to Consumers:

- Comprehensive financial advisory services under one roof. i.e., insurance services along with other financial services such as banking, mutual funds, personal loans etc.
- Enhanced convenience on the part of the insured.
- Easy access for claims, as customers visit banks regularly.
- Innovative and better product ranges.

Factors Critical to the Success of Bancassurance:

Factors that appear to be critical for the success of bancassurance are:

- Commitment of senior management: Senior management of the bank must be committed to bancassurance as a core strategy that should be integrated with other core strategies.
- Importance: Bancassurance should not be merely viewed as an add-on product but as an important aspect of the business
- Change in culture: Bank's culture must be transformed to sell insurance and it must be ensured that "shelf space" is adequately provided in the bank's retail delivery system.
- Handling of customers: With customer awareness levels increasing, they are demanding greater convenience in financial services.
- Emergence of remote distribution channels: The emergence of remote distribution channels, such as PC-banking and Internet-banking, would hamper the distribution of insurance products through banks.
- Emergence of newer distribution channels: The emergence of newer distribution channels seeking a market share in the network.
- Others: Strategies consistent with the bank's vision, knowledge of target customers' needs, defined sales process for introducing insurance services, simple yet complete product offerings, strong service delivery mechanism, quality administration, synchronized planning across all business lines and subsidiaries, complete integration of insurance with other bank products and services, extensive and high-quality training, sales management tracking system for reporting on agents' time and results of bank referrals and relevant and flexible database systems.

Global Scenario of Bancassurance:

Bancassurance is a subject of continuing interest to the financial services industry worldwide. Over the years, regulatory barriers between banking and insurance have diminished altogether, creating a climate increasing friendly to Bancassurance. The degree to which banks devote themselves to the sale and servicing of Insurance varies from country to country and among individual banks. Bancassurance so far has been principally European.

Bancassurance has transformed the Insurance industry in most of the developed world. Bancassurance represents over 65% of the premium income in life insurance in Spain, 60% in France, 50% in Belgium and Italy. By making use of existing legislation in Insurance, Bancassurance has provided them with a new source of profit, which served to diversify their banking activity and optimize their choice of products, thereby increasing customer loyalty.

Bancassurance in India:

The Indian insurance industry is growing fast. Banks and insurance companies see bancassurance as the answer

to the Indian retail financial industry's future income. Non-life products have featured less prominently in such channel as compared to life products. The banks in India have a client base of close to 100 million and therefore are an ideal case for carrying bancassurance forward. A unique aspect will be predominance of rural bank branches in sales processes and the closeness of the bank staff with customers in general in the rural pockets.

Bancassurance in India is a very new concept, but is fast gaining ground. In India, the banking and insurance sectors are regulated by two different entities (banking by RBI and insurance by IRDA) and bancassurance being the combinations of two sectors comes under the purview of both the regulators. Each of the regulators has given out detailed guidelines for banks getting into insurance sector.

As per the recommendations of the Malhotra Committee on Reforms in the Insurance Sector, Indian Parliament passed the Insurance Regulatory & Development Authority (IRDA) Act 1999. IRDA is constituted to regulate, promote and ensure orderly growth of insurance and reinsurance business. According to IRDA, a private sector participant has to fulfil the following criteria for entry into insurance sector:

- Minimum paid-up capital of ₹ 100 crores
- Investment in policyholders' funds only in India
- Restriction of international companies to minority equity holding of 49%

Reserve Bank of India has prescribed entry guidelines under the following three options for banks wanting to diversify into insurance:

Joint-venture on risk participation basis: Joint Ventures (JV) for insurance business with risk participation is allowed for banks which have

- Net worth not less than ₹ 500 crores,
- CRAR of not less than 10%,
- Reasonable level of NPA,
- Net profit continuously for the last three years,
- Satisfactory performance records of subsidiaries

Strategic Investment: Banks which are not eligible for JV participation as above, can make investments up to 10% of the net worth of the bank or ₹50 crores whichever is less in insurance company for providing infrastructure and service support without any contingent liability, provided they fulfil the requirements:

- CRAR of not less than 10%.
- Reasonable level of NPA
- Net profit continuously for the last three years.

Agency business on fee basis: Any commercial bank may undertake insurance business on fee basis, as an agent of insurance companies, with no risk participation IRDA has also notified regulations, inter alia, on registration of insurers, their assets and liabilities, conduct of business, obligation to rural social sectors, protection of policy holders' interest, licensing of insurance agents, agents' training etc. A bank can act as a Corporate Agent of any one life and/or non-life insurer(s); but cannot act as a broker on behalf of many life/non-life insurers. Thus, banks undertaking bancassurance will also be subject to IRDA Regulations

The Insurance Regulatory and Development Authority (IRDA) guidelines for the bancassurance are:

1. Each bank that sells insurance must have a chief insurance executive to handle all the insurance activities.
2. All the people involved in selling should under-go mandatory training at an institute accredited by IRDA and pass the examination conducted by the authority.

3. Commercial Banks, including cooperative banks and regional rural banks, may become corporate agents for one insurance company.
4. Banks cannot become insurance brokers.

7.1.6 Other Channels:

A Web Aggregator is an online seller of insurance products – allowed to sell insurance products of multiple insurance companies. Example: Policy Bazaar. They are permitted to do only online sales, though telephonic solicitation is also allowed. Since the Web Aggregator aggregates the insurance products of multiple insurance companies through internet (Web), they are called Web Aggregators. Salient features of this model are as follows:

- A Web Aggregator is a Company having its own website providing.
- Product information of various insurers with price comparisons.
- Leads to Insurers from customers who access the website.
- No ranking, rating or endorsement of any insurer allowed.
- Minimum capital & Net worth of ₹ 25 lakhs and cannot act as agent, broker, TPA surveyor or be their related party.
- All Web Aggregators shall get approval from IRDA valid for 3 years.
- An insurance broker who provides product comparisons in his website shall also follow the web aggregator guidelines pertaining to display of product comparisons on website.
- Telemarketing by Web Aggregators through Authorised Verifiers who have to undergo IRDAI training and examination, telephone solicitations allowed only for leads generated on the Web aggregator site.
- Product restriction over telemarketing mode – not more than ₹ 1,50,000 of annualised premium.
- Customer visits the website of the aggregator selects the product category, e.g. Endowment, Whole Life, Term, ULIPs etc.
- Once the visitor selects the product category, the website will ask for his basic details such as age, health and personal details, term, sum assured required etc.
- Once the visitor gives the details, the product comparison chart is displayed, along with the default underwriting requirements such as medical examinations required, exclusions, limits and other conditions and key features of the product chosen.
- Visitor may select the insurer with whom his information can be shared as a lead, else the Web Aggregator can transmit the lead to not more than 3 insurers (life or non-life as the case may be).
- Insurer can in turn pass on the lead to a Corporate Agent or an Authorised Person of a Telemarketer or an Insurance Broker or to their own employees or Web Aggregator can use distance marketing for closure of sale.
- Visitor is either called over phone or visited by person closing the sale (either authorised employee of Web Aggregator or Insurer or Broker) and the solicitation is completed.
- Policies procured by Web Aggregators to be commensurate with their resources and number of Authorised verifiers.
- A Web Aggregator is allowed to provide product comparisons as well as solicit insurance business – entity licensed cannot do any other business, including corporate agency, broking.
- A Company or a partnership firm can act as Web Aggregator after procuring IRDA licence with a net worth of ₹ 25 lakhs to be maintained at all times – foreign equity restricted to 26%

- Principal Officer and the Employees who solicit insurance business should have undergone 50 hours training and passed the examination conducted by National Insurance Academy, Pune.
- Professional indemnity insurance 3 times the remuneration subject to a minimum of ₹ 10 lakhs mandatory.
- Web Aggregator shall ensure that their systems comply with the generally accepted information security standards.
- Ratings or rankings or endorsements of products prohibited while doing product comparisons.
- Customer's lead shall be shared with the insurer of customer's choice. If customer has no choice of a specific insurer, the lead can be shared with up to 3 insurers by the Web Aggregator.
- Once a policy is sold out of the lead provided by insurer, it shall be fed into the Lead management system ('LMS') by the concerned insurer – yearly audit of the LMS prescribed.
- Board approved policy for comparison and distribution of products.

Insurance Marketing Firms:

An Insurance Marketing Firm is allowed to sell Insurance Products as well as other financial products under one entity. Apart from Insurance Products, they are also allowed to sell other financial products like Mutual funds, small savings etc.

Salient features are given below:

- **Entity which is permitted to solicit insurance products by employing Insurance Sales Persons for 2 life, 2 non-life and 2 health insurance companies at a time.**
- **For non-life insurance companies only retail products, e.g., motor, health, allowed to be sourced.**
- **Solicit other financial products by employing Financial Service Executives for:**
 - ▲ **mutual funds of mutual fund companies regulated by SEBI;**
 - ▲ **pension products regulated by PFRDA;**
 - ▲ **other financial products distributed by SEBI licensed Investment Advisors;**
 - ▲ **banking/ financial products of banks/ NBFC regulated by RBI;**
 - ▲ **non-insurance products offered by Department of Posts, Government of India;**
- **Other Insurance Servicing Activities allowed to be undertaken:**
- back-office activities of insurers as allowed in Outsourcing Guidelines;
- acting as approved person of Insurance Repositories;
- survey and loss assessment work by employing on their rolls licensed surveyor & loss assessors;
- IMFs to have 1 Principal Officer (Associate, Fellows of Insurance Institute, Actuaries' Institute, Institute of Insurance & Risk Management, Graduates with 5 years insurance/10years financial sector experience) and as many numbers of Insurance Sales Persons ('ISPs')/Financial Service Executives ('FSEs') as required (ISPs minimum XII passed).
- Insurance Sales Persons call insurance products on behalf of the IMF, while Financial Service Executives can sell other financial products on behalf of the IMF.
- Principal Officer and ISPs to undergo the prescribed training and examination.
- FSPs shall possess the necessary qualifications, experience as may be specified by the respective regulators (e.g., SEBI).

- ◉ Minimum capital: ₹10 lakhs – foreign equity not exceed 49%.
- ◉ Remuneration:
 - To be specified by Regulations by IRDAI.

Micro Insurance Agents:

As the name suggests, a Micro Insurance Agent is recognised to sell insurance products predominantly in Rural areas and to the under privileged sections of the Society. Salient features of this model are given below:

- ◉ Who can become a Micro Insurance Agent?
 - Non-Governmental Organisations or Self-Help Groups or Micro Finance Institutions or Reserve Bank of India regulated Non-Banking Finance Companies-Micro Finance Institutions,
 - District and Urban Cooperative Banks,
 - Primary Credit Cooperative Societies,
 - District Co-operative Banks, Regional Rural Banks and Urban Cooperative Banks,
 - Primary Agricultural & other Co-operative Societies and
 - Banking Correspondents.
- ◉ Micro Insurance Products – only simple products allowed to be sold:
 - Life companies – Life, Pension or Health products with a maximum Sum Assured of ₹ 2 lakhs. Riders allowed. For Variable Insurance Products, maximum premium of ₹ 6,000 p.a.
 - Non-life companies: 1 year Health insurance (individual) – ₹ 1 lakh; Family ₹ 2.50 lakhs;
 - Personal accident ₹ 1 lakh
- ◉ Micro insurance agent can work with 1 life, 1 non-life, 1 health and Agriculture Insurance Company
- ◉ Tie-up between Life and Non-life insurers for marketing Micro insurance policies allowed
- ◉ Following flexibilities provided to non-life insurers while appointing Micro insurance agents:
 - Life companies: Life, Pension or Health products with a maximum Sum Assured of ₹ 2 lakhs. Riders allowed. For Variable Insurance Products, maximum premium of ₹ 6,000 p.a.
 - Non-life companies: 1 year Health insurance (individual) – ₹ 1 lakh; Family ₹ 2.50 lakhs;
 - Personal accident ₹ 1 lakh.
- ◉ Micro insurance agent can work with 1 life, 1 non-life, 1 health and Agriculture Insurance Company.
- ◉ Tie-up between Life and Non-life insurers for marketing Micro insurance policies allowed.
- ◉ Following flexibilities provided to non-life insurers while appointing Micro insurance agents:
 - Appointing Micro insurance agents for Medium, Small or Micro insurance sectors or any combination of them (subject to Micro insurance agent undergoing additional training in MSME sector).
 - Appointing Micro insurance agents for various lines of business or any combination of them.
 - Appointing Micro insurance agents for manufacturing or service sector or both.
- ◉ While a Micro Insurance Agent can sell only Micro insurance product, any licensed agent or a Broker can sell Micro insurance products also.
- ◉ A Micro insurance agent can work only for one life and one non-life insurer.
- ◉ A Micro insurance Agent can sell through a Specified persons employed by the said Agent with the prior

approval of the concerned insurer(s).

- Insurer can appoint a Micro insurance agent by a deed of agreement - 25 hours training to be imparted by insurer to Micro insurance agent and Specified persons.
- Limits to commission, 20% of the premiums paid for all the policy years; 10% of single premium; 15% for non-life micro insurance policies.
- A micro insurance policy issued to a life assured residing in Rural area and engaged in a social sector occupation, can be reckoned both for Rural and Social sector compliances separately.
- 3 months' cooling off period for Micro insurance agents and Specified Persons of such Agents moving from one insurer to another insurer.
- Prohibition of Micro insurance agents terminated on the grounds of fraud till they are exonerated.
- Provisions for allotting the orphan Micro insurance policies to other in-force Micro insurance agents
- Prohibition of common specified persons of Micro insurance agents, prohibition of individual agents, SPs of Corporate agents and authorised employees of Brokers holding specified person position with Micro insurance agents.
- Micro insurance agents allowed to print policy documents on A-4 size paper with evidence of stamp duty, on behalf of the insurers – policy document should be in simple, understandable and local language.
- Not less than 12.5 hours training every 3 years to be imparted by insurers to the Micro insurance agents.

Common Service Centres:

Under this model Village Level Entrepreneurs ('VLEs') who offer certain services to the Villagers like payment of utility bills, booking of train tickets, selling of manures and fertilizers etc., are also permitted to sell insurance products. They typically have a 100 to 200 sq. ft. offices with computer systems and internet connectivity. Under this model the VLE network is used to sell insurance in rural areas. This measure is intended to increase the insurance penetration in the country.

- All VLEs are linked to an CSC Special Purpose Vehicle (CSC-SPV), a Central organisation created under the National e-Governance initiative of the Government of India.
- A VLE registered who is at least X passed, undergoes a 20-hour training through digital means and passes special examination by NIELIT.
- VLE would be authorised to sell on behalf of the CSC-SPV as Rural Authorised Persons ('RAP').
- More than 100,000 VLEs across the country eligible to become RAPs.
- Insurers can tie up with RAPs for sale of insurance policies.
- RAP to be guided by the needs of the customers and recommend appropriate insurance products.
- Remuneration to CSC-SPV is paid as Commission on products sold by the RAP ('VLEs'), 80% of the remuneration to be passed on to the RAP by CSC-SPV.
- Only special products designed for CSCs can be sold, Sum Assured not to exceed ₹ 2 lakhs, except for Motor insurance.
- Facility to fill the proposal forms online and upload the document to insurance company available with CSCs.
- Customer consent can be obtained through scanned signature or through biometric thumb print.
- CSCs to also assist nominees in claims settlement operations.

Point of Sales Persons:

A Point of Sales Persons ('POSP') model is a recent innovation and is intended to sell simplified products in any area, Urban or Rural.

- POSP can be appointed by an Insurer or Intermediary subject to the following conditions:
 - Every POSP shall be identified by an Aadhaar Number or PAN.
 - POSP shall be at least 10th pass.
 - POSP shall undergo the 15-hour in-house training and pass the examination conducted by the concerned Insurer or intermediary – model syllabus prescribed by IRDAI.
- 1 Insurer or Intermediary shall upload the details of the POSP appointed in the Insurance Information Bureau database and preserve records for 5 years.
- 1 Restriction on products which can be sold by POSP – Products to be specially approved by IRDAI for POSPs:
- General Insurance:
 - Motor Comprehensive Package policy & Third-Party Liability covers for 2-wheeler, Private Car and Commercial vehicles
 - Personal Accident
 - Travel Insurance
 - Home Insurance
 - Indemnity-based Health insurance products (Maximum Sum Assured: Rs.5 lakhs; Maximum: 3 products)
- Life Insurance:
 - Pure Term Insurance with or without return of premium – no limit to Sum Assured (only Nonmedical)
 - Non-par Non-linked Endowment policies (including Money back) & Health products (fixed benefits) only non-medical – maximum Sum Assured – Rs.10 lakhs (excluding ADB);
 - Immediate Annuities.
- All Proposal forms and Policy documents to contain the Aadhaar Card or PAN of POSP
- Insurance company/Insurance Broker responsible for the acts of the POSP and liable for penal provisions under the Insurance Act in case of misconduct of POSP appointed by the Insurance company/Insurance Broker
- POS Products can be sold by POS Persons, Individual Agents, Intermediaries & Insurers.

Motor Insurance Service Providers (only non-life)

- Who is a Motor Insurance Service Provider ('MISP')?
 - Any automobile dealer (authorised dealer or sub-dealer) of automobile manufacturer, for selling new or used automotive vehicles.
 - Authorised to sell only Motor Insurance Policies, including add-ons.
- Either an Insurer or an Intermediary can sponsor a MISP.
- MISP can work for any number of insurers or Intermediaries.
- Sponsoring insurer/Intermediary to issue a Permission Letter to MISP authorising MISP to act on their

behalf and sell Motor insurance policies.

- MISP shall appoint a Designated Person responsible for compliance of the Guidelines.
- Any person distributing Motor insurance policies shall be at least 12th passed and shall undergo the training and examination applicable to Point-of-sales Persons.
- Distribution Fees to MISP, if directly engaged by insurer:
 - ▲ For 2 wheelers – 22.5% of Own Damage portion.
 - ▲ For other than 2 wheelers – 19.5% of Own Damage portion.

Note: If engaged by intermediary, the Commission ('Remuneration and Reward') payable to intermediary shall not exceed limits specified above.

- Payment under any other head like fees, charges, infrastructure expenses, advertising expenses, documentation charges, legal fees, advisory fees etc. to MISP or intermediaries or their associate companies by insurer prohibited.
- Both Commission & Distribution Fees cannot be paid under the same policy.
- Existing automotive dealers who are intermediaries, shall surrender their certificate of registration and become MISP.

General Insurance

7.2

A popular or generally accepted idea is that all insurance other than life is non-life or general insurance. General Insurance comprises of insurance of property against fire, burglary and natural calamities like floods and earthquakes etc., personal insurance such as Accident and Health Insurance, and liability insurance which covers legal liabilities. There are also other covers such as Errors and Omissions insurance for professionals, credit insurance, agricultural insurance, etc. Non-life insurance companies have products that cover property against fire and allied perils, flood storm and inundation, earthquake and so on.

The non-life insurers offer policies covering machinery against breakdown, there are policies that cover the hull of ships and so on. A marine cargo policy covers goods in transit including by sea, air and road. Further, insurance of motor vehicles against damages and theft forms a major chunk of non-life insurance business. In respect of insurance of property, it is important that the cover is taken for the actual value of the property to avoid being imposed a penalty should there be a claim.

Personal insurance covers include policies for Accident, Health etc. Products offering Personal Accident cover are benefit policies. Health insurance covers offered by non-life insurers are mainly hospitalization covers either on reimbursement or cashless basis. The cashless service is offered through Third Party Administrators who have arrangements with various service providers, i.e., hospitals. The Third-Party Administrators also provide service for reimbursement claims. Sometimes the insurers themselves process reimbursement claims.

Accident and health insurance policies are available for individuals as well as groups. A group could be a group of employees of an organization or holders of credit cards or deposit holders in a bank etc. Normally when a group is covered, insurers offer group discounts.

Liability insurance covers such as Motor Third Party Liability Insurance, Workmen's Compensation Policy, etc., offer cover against legal liabilities that may arise under the respective statutes, Motor Vehicles Act, The Workmen's Compensation Act, etc. Some of the covers such as the foregoing (Motor Third Party and Workmen's Compensation Policy) are compulsory by statute. Liability Insurance not compulsory by statute is also gaining popularity these days. Many industries insure against public liability. There are liability covers available for Products as well.

There are general insurance products that are in the nature of package policies offering a combination of the covers mentioned above. For instance, there are package policies available for householders, shop keepers and also for professionals such as doctors, chartered accountants etc. Apart from offering standard covers, insurers also offer customized or tailor-made ones. Industries also need to protect themselves by obtaining insurance covers to protect their building, machinery, stocks, etc. and need to cover their liabilities as well. Financiers insist on insurance of property which they finance through loans. So, most industries or businesses that are financed by banks and other institutions do obtain covers.

Most general insurance covers are annual contracts. However, there are few products that are long-term.

It is important for proposers to read and understand the terms and conditions of a policy before they enter into an insurance contract. The proposal form needs to be filled correctly and completely, as this is the offer and first step of

the insurance contract; it is always filled by a proposer to ensure that the cover is adequate and the right one. Unlike Life insurance, General insurance contracts are based on indemnity of the loss incurred by the insured. Therefore, the losses will have to be measured accurately. The Surveyor and Loss Assessor, as we saw in one of the earlier Chapters, play a crucial role in assessing the extent of damages to arrive at the compensation. While assessing the loss on account of fire accident to a Car could be relatively simple, it becomes complex in certain cases for example, Public Liability insurance. Therefore, it is important for the reader to appreciate how the framework around determination of liability in General insurance operates in India.

Insurance business is one of the most highly regulated businesses globally for reasons of equity and efficiency. It has a well-defined regulatory and legislative framework to operate. Insurance law by itself is both unique and comprehensive because it operates within the limitations of all the other governing legislations and ensures the legal provisions by incorporating the same in its various policies. The transactions of general insurance business in India are governed by two main statutes, namely:

- The Insurance Act, 1938
- General Insurance Business (Nationalisation) Act, 1972

The Insurance Act was passed in 1938 and was brought into force from 1st July, 1939. This act applies to the GIC and the four subsidiaries. The act was amended several times in the years 1950, 1968, 1988, 1999. This Act specifies the restrictions and limitations applicable as specified by the Central Government under powers conferred by section 35 of the General Insurance Business (Nationalization) Act, 1972. The important provisions of the Act relate to:

Registration: Every insurer is required to obtain a Certificate of Registration from the Controller of Insurance, by making the payment of requisite fees. Registration should be renewed annually.

Accounts and audit: An insurer is required to maintain separate accounts of the receipts and payments in each class of insurance viz. Fire. Marine and Miscellaneous Insurance.

Apart from the regular financial statements, the companies are required to maintain the following documents in respect of each class of insurance:

- Record of Cover notes specifying the details of the risk covered
- Record of policies
- Record of premiums
- Record of endorsements
- Record of Bank guarantees
- Record of claims
- Register of agency force and business procured by each with details of commission
- Register of employees
- Cash Books
- Reinsurance details
- Claims register

Investments:

Investments of insurance company are usually made in approved investments under the provisions of the Act. The guidelines and limitations are issued by the Central Government from time to time.

Limitation on management expenses: The Act prescribes the maximum limits of expenses of management

including commission that may be incurred by an insurer. The percentages are prescribed in relation to the total gross direct business written by the insurer in India.

Prohibition of Rebates: The Act prohibits any person from offering any rebate of commission or a rebate of premium to any person to take insurance.

7.2.1 Principles:

Our life is full of uncertainties. We are facing uncertainties on every step, while proceeding in our life. Same in the field of business also, there are various types of uncertainties, such as uncertainty of flood, war, earthquake, riots, civil war, etc. Sometime the prices of goods produced fluctuates so that business suffers loss. Sometime machinery installed became obsolete due to modern innovation in the same field. Where goods are in transit they may damage or destroyed by fire or other natural calamities. Sometime offices, factories, buildings are damaged due to various natural and manmade calamities. So, the business face various types of risks and a business man to reduce impact of these risks go for insurance for smooth sailing of his/her business.

Insurance prevents or minimises the hindrance due to risks of various kinds, it has attained such an importance that without its modern business cannot function properly.

Our life is also going through various types of risks. A human being is prone to various types of diseases, death, accidents or injuries. We have to insure ourselves for our family members.

Meaning of Insurance:

“Insurance is a contract in which one party, known as the insured or assured, insures with another person, known as the insurer, assures or underwriter, his property of life or the life of another person in whom he has a pecuniary interest, or property in which he is interested, or against some risk or liability, by paying a sum of money as a premium.

Under the contract, the insurer agrees to indemnify the insured against a loss which may accrue to the other on the happening of some event.

The instrument or the contract is called Policy of Insurance.

General Principles of Insurance; Some of the principles of insurance are:

Indemnity:

A contract of insurance is a type of contract of indemnity (except in the case of life and personal accident insurance) in which an insurer contract with the insured to mitigate any monetary loss held to the insured on happening of some event as mentioned in the contract.

It is necessary that some monetary or pecuniary loss happen to the insured due to happening of some event.

The insured is not permitted to make profit from the insurance. Suppose Mr. X taken a policy to insure his car against theft and accident of ₹ 1,00,000. He got the accident and damage cost is of ₹ 10,000. Then the insurance company will allow his claim up to ₹ 10,000 only. In case his car has been stolen then they may claim maximum claim of ₹ 1,00,000 in case of total loss.

Good Faith:

The contract of insurance must be on good faith. The insured is of the obligation to declare full and true disclosure of facts to the insurer. The insurance company on the facts declared by the insured will decide the type of insurance and the liability and as well as the premium. So, the true disclosure of all facts is necessary. The insurance company may declare any contract as void, if later found that the facts declared by the insured are not true.

So, all contracts of insurance are the contracts “Uberrimae fidei”, i.e., the contracts of utmost good faith and therefore non-disclosure of a material fact entitles other party to avoid the contract.

Note: a new material fact, which is not material at the time of entering into the contract but later it became material during the course of time on the basis of which the insurer may declare the contract void or not ready to renew the contract, should be declared by the insured to the insurer as soon as he came to know the fact.

Any material facts come in the knowledge of the insured subsequently need not to be disclosed.

Insurable Interest:

It is some monetary or pecuniary interest. A person is said to have an insurable interest when he is so situated with regard to thing insured that he would have benefit from its existence and loss from its destruction.

The insured must have insurable interest in every contract of insurance with respect of any object or life.

A factory owner has insurable interest in the factory or if a person has a car has insurable interest in the car. Suppose Mr. A has a car and the car cannot be insured by Mr. B, since Mr. B has no insurable interest in Mr. A's car.

The insurable interest of a husband will be in the life of his own and his wife or wife has insurable interest in the life of her own or his husband in case of life insurance policies.

The insurable interest must be pecuniary interest.

Causa Proxima: i.e., the "proximate cause" this is applicable in case of marine and fire insurance. In these cases when damage has resulted due to two or more causes, we have to look to the proximate or the nearest cause of damage, although the damage might have not been taken without remote cause. In the case of loss, the proximate cause should be considered not the remote cause. If the cause of the loss is the peril as mentioned in the contract then the insured will get the claim otherwise not.

As held in case of *Pink v. Fleming* (1899) 25 QBD 396, Lord Esher observed, "The question, which is the cause proxima of a loss, can only arise where there has been a succession of causes. When a result has been brought by two causes, in insurance law, look to the nearest cause; although the result would no doubt not have happened without the remote cause. In the above case the ship collided with another ship, resulting in delay and mishandling of cargo of oranges which deteriorated. It was held that the deterioration of oranges was not due to collision of ships (peril insured) but that was due to mishandling and improper storage."

Mitigation of Loss: It is an important principle of insurance, that in case of peril or accident the insured must try his best to save insured interest in the property or life. That he must take all measures to minimise the loss that he would have taken if the property were uninsured.

Risk Must Attach: The risk must attach i.e.; the insurer receives the premium in a contract of insurance for running a certain risk. If the risk is not run or not continuous on the business or the property of the insured then the premium received by the insurer should be returned.

Subrogation: It applies in case of fire and marine policies. Subrogation is a right of the insurers to enforce for their own benefit all the rights and remedies which the insured possess against third parties in respect of subject matter. Subrogation is thus the substitution of one person in place of another in relation to the claim, its rights, remedies or securities.

Suppose two ships were insured and belong to Mr. X and Mr. Y, they have collided and Mr. X received insurance claim from insurance company. Now in this case insurance company may sue Mr. Y for negligence and claim for damages.

Contribution: Where a particular property is insured with two or more insurers against the same risk, it is called "double insurance". In the event of loss, the insured will get compensation only for the amount of actual loss. He will be compensated by the concerned companies on the basis of "principle of contribution". The insurers must share the claim to the extent sum insured with them. If in this case whole loss is paid by one insurer then it is entitled to demand contribution from other insurers.

7.2.2 General Insurance Products:

Fire insurance policies cover the risk of loss arising out of unforeseen fire accidents with the limit of the Sum assured. These products are more popular in Corporates than with individuals. They are designed to provide financial protection for property against loss or damage by fire and other specified perils. Reinstatement value clauses are attached to Fire policies under which the amount payable is the cost of reinstating property of the same kind or type, by new property.

Marine insurance policies comprise of Cargo insurance and hull insurance. Cargo insurance provides insurance cover in respect of loss of or damage to goods during transit by rail, road, sea or air. Hull insurance on the other hand, concerns the insurance of ships (hull, machinery etc.).

Motor insurance:

Motor insurance, as the name suggests, is insurance of motor vehicles and are broadly classified as follows:

- a. Private Cars
- b. Motor cycles and Motor scooters
- c. Commercial vehicles – sub divided into Goods carrying vehicles, Passenger carrying vehicles and Miscellaneous vehicles.

Insurance of Motor Vehicles are covered under the Motor Vehicles Act 1939. Insurance of motor vehicles against damage is not made compulsory, but the insurance against third party liability arising out of the use of motor vehicles in public places is made compulsory. Insurance Cover against damage is known as “Own Damages” and against injury or death to a third party is known as “Third Party” claim. No motor vehicle can play in a public place without such insurance. Recently, pursuant to a Supreme Court decision, all Insurers are mandated to issue long term policy for Third Party risks- Three years for new private cars and five years for new two wheelers.

Personal Accident Insurance:

The Policy provides that, if the insured shall sustain any bodily injury resulting solely and directly from accident caused by external, violent and visible means, then the Insurance company shall pay to the insured or his legal personal representative(s), as the case may be, a Sum assured under the Policy. The Policy covers the contingency of death, loss of body parts and Permanent and Temporary disablements.

Liability Insurance:

The purpose of liability insurance is to provide indemnity in respect of damages payable under law for personal liability of any nature. This legal liability may arise under the common law on the basis of negligence or under statutory law (e.g., Public Liability Insurance Act or workman’s Compensation Act) on ‘no fault basis’, i.e. even when there is no negligence.

Engineering Insurance:

Engineering insurance covers the various risks in a manufacturing organisation, especially plants. The various categories of Engineering insurance are as follows:

- (a) Contractors All Risks Policy – designed to protect the interests of contractors and principals in respect of civil engineering projects like buildings, bridges, tunnels etc.
- (b) Erection All Risks Policy – is concerned with erection of electrical plant and machinery and equipment and structures involving no or very little civil engineering work.
- (c) Marine-cum-erection Policy – comments with the delivery of the first consignment of plant and machinery at the site of erection.

- (d) Machinery breakdown Policy – Insurable property include boilers, electrical, mechanical and lifting equipment.
- (e) Contractors Plant & Machinery Policy – Policy given to a Contractor who may be using his plant and machinery at different projects during the course of the year
- (f) Boiler & Pressure Plant Policy.
- (g) Machinery Loss of Profits Policy or Machinery insurance indemnify an insured against material damage resulting from breakdown or explosion or collapse of machinery – such damage may also result in business interruption at the Insured's premises.
- (h) Advance Loss of Profits Policy – risk of delay of project due to accidental damage to project materials.
- (i) Deterioration of Stock Policy – covers loss due to breakdown of refrigeration.
- (j) Electronic Equipment Policy - physical loss or damage necessitating repairs or replacement.
- (k) External Data Media – covers cost of replacing damaged external storage media.
- (l) Increased cost of working – indemnifies against all additional cost incurred to ensure continued data processing on substitute equipment if such costs are incurred as an unavoidable consequence of loss or damage indemnifiable under material damage section of the policy.

Miscellaneous Insurance:

Miscellaneous Insurance products include the following products:

- (a) Burglary insurance
- (b) Householders' Insurance
- (c) Shopkeepers' Insurance
- (d) Bankers' Blanket Policies
- (e) Jewellers' Block Policies
- (f) Blood Stock (Horse) Insurance
- (g) All Risks Insurance Policy – includes jewellery, valuables, antiques, paintings, watches, cameras etc.
- (h) Money insurance – covers the risk of loss of money in transit
- (i) Fidelity guarantees – covers the risk of arising out of dishonesty of employees
- (j) Television insurance
- (k) Pedal cycle insurance
- (l) Plate Glass insurance – breakage of plain glass
- (m) Neon sign insurance

Rural Insurance:

Rural insurance includes the following categories of products:

- (a) Cattle Insurance
- (b) Sheep and Goat Insurance
- (c) Poultry Insurance
- (d) Dog Insurance
- (e) Silk Worm Insurance

- (f) Honey Bee Insurance
- (g) Horticulture/Plantation Insurance Scheme
- (h) Comprehensive Floriculture Insurance
- (i) Agriculture Pump set Policy
- (j) Salt Works Insurance
- (k) Cycle Rickshaw Policy
- (l) Animal Driven Cart Insurance
- (m) Gobar Gas Insurance
- (n) Hut Insurance
- (o) Weather/Crop Insurance

7.2.3 Tariff Advisory Committee (TAC):

TAC is the Statutory Body under Insurance Act 1938. Tariff Advisory Committee controls and regulates the rates, advantages, terms and conditions that may be offered by insurers in respect of General Insurance Business relating to Fire, Marine (Hull), Motor, Eng. And Workmen Compensation. The main task of Tariff Advisory Committee is to regulate and control the rates, benefits, terms and conditions offered by life insurance companies in India.

The TAC Board has been reconstituted with seven members representing the present General Insurance Industry and eight members from government and Industry. The Controller of Insurance cum Chairman IRDA is the Chairman of TAC. TAC consists of Chairman, vice chairman and eight members. Tariff Advisory Committee has been designated by IRDA as the data repository for the non-life insurance industry. The transaction level data on Motor, Health and other lines are being collected for the Repository presently.

The Tariff Advisory Committee ("Advisory Committee") is a body corporate, which controls and regulates the rates, advantages, terms and conditions offered by insurers in the general Insurance business. The Advisory Committee has the authority to require any insurer to supply such information or statements necessary for discharge of its functions. Any insurer failing to comply with such provisions shall be deemed to have contravened the provisions of the insurance Act. Every Insurer is required to make an annual payment of fees to the Advisory Committee of an amount not exceeding in case of reinsurance business in India, one percent of the total premiums in respect of facultative insurance accepted by him in India; and in case of any other insurance business, one percentage of the total gross premium written direct by him in India.

Powers of the TAC:

1. Power to control rates, advantages, terms and conditions in respect of risk other than life (general insurance): The Act empowers TAC to control and regulate the rates, advantages, terms and conditions offered by the insurers in respect of any class of risk and it shall be binding on all insurers. However, in certain cases it may permit any insurer for a limited period (not exceeding 2 years) to adopt different rates from those fixed by it, subject to such conditions as may be imposed by TAC.
2. TAC may require by notice under section 64 UE any insurer to supply necessary information within the period specified by it and failure to do so would be deemed as contravention of the Act.
3. Section 64 UE empowers the Authority to depute any of its officers to make personal inspection of accounts, ledger etc. in order to verify accuracy of statements furnished by the insurer.
4. TAC is also empowered to make arrangements for inspection on application of the insurer under sub-section (4) in respect of risks, adjustment of losses etc.
5. TAC is empowered to constitute regional committees.

6. The authority has been empowered under section 64 UB to make regulations in respect of functions to be performed by the TAC, terms of the office of its members. procedure for election & other matters relating to the transaction of its business.

7.2.4 General Insurance Council:

General Insurance Council Regulations, 2008

In exercise of the powers conferred under section 64R(1)(d) of the Insurance Act, 1938 (4 of 1938), the General Insurance Council, with the previous approval of the Insurance Regulatory and Development Authority, hereby makes the following Regulations, namely:

1. Short Title and Commencement

- (a) These regulations may be called the General Insurance Council Regulations, 2008.
- (b) They shall come into force with effect from the date of approval of the Authority.

2. Definitions

In these Regulations, unless the context otherwise requires-

- (a) 'Act' means the Insurance Act, 1938 (4 of 1938).
- (b) 'Authority' means the Insurance Regulatory and Development Authority established under sub-section (1) of section 3 of the Insurance Regulatory and Development Authority Act, 1999 (41 of 1999).
- (c) 'Board' means the Board of Directors or other governing body of members of an insurance company, by whatever name called.
- (d) 'Chairman' means the Chairman of the Committee.
- (e) 'Council' means the General Insurance Council as stated in clause (b) of section 64C of the Act.
- (f) 'Committee' means the Executive Committee of the Council, constituted pursuant to the provisions of Part II-A of the Act.
- (g) 'Member' means a member of the Council, and includes a member of the Committee, where appropriate to the context.
- (h) 'Secretary General' means the official nominated by the Authority to act as Secretary of the Committee under Section 64F(2)(b) and to discharge such functions as may be provided in these regulations.
- (i) Words and expressions used and not defined in these regulations, but defined in the Act shall have the meanings respectively assigned to them in the Act.

3. Functions of the Council

(a) Main Objects

- (i) To aid, advise and assist insurers carrying on general insurance business in the matter of setting up equitable and clear standards of conduct and sound practice and in the matter of rendering efficient service to holders of General Insurance policies.
- (ii) To render advice to the Authority in the matter of controlling the expenses of insurers in respect of their General Insurance business in India.
- (iii) To bring to the notice of the Authority, the case of any insurer acting in a manner prejudicial to the interests of the holders of general insurance policies.
- (iv) To bring about better co-ordination and cohesion in the general insurance industry.
- (v) To promote awareness about the role and benefits from general insurance.

- (b) Objects incidental or ancillary to the attainment of the main objects:
 - 1. To promote, sponsor and support programmes and activities, and to take action including submitting memoranda, representations and campaigns necessary for maintaining a positive image of the General Insurance industry through media, forums and opinion makers and enhance the level of consumer confidence in the industry.
 - 2. To study, analyse and represent to Government of India, State Governments, Regulator or any other Authority to maintain and enhance, development, growth and expansion of the General Insurance sector or any other matters related to the General Insurance business in India.
 - 3. To promote and facilitate research and development in all branches and related activities of General Insurance business.
 - 4. To evolve and recommend innovative procedures and solutions for legal, technical, managerial or professional activities in the General Insurance business.
 - 5. To act as a clearing house for data collection, storage, dissemination and exchange of data, procedures and practices to be adopted in General Insurance business
 - 6. To provide a forum or forums for exchange of views on matters relating to promotion of sound business practices and promoting efficient service to policyholders in general insurance business.
 - 7. To organize and conduct special training programmes such as but not limited to seminars, workshops and the like for personnel engaged in general insurance business.
 - 8. To print, publish and circulate bulletins, periodicals, booklets, pamphlets, text books concerning the General Insurance business.
 - 9. To subscribe and become a member of any association, chamber of commerce or federation consistent with the functions of the Council.
 - 10. To invest and deal with or keep in deposit the moneys of the Council in such manner as the Council may deem fit.
 - 11. To open bank accounts and operate the same.
 - 12. To appoint, employ or engage such persons as employees or otherwise as may be considered expedient by the Council.
 - (c) The income and the property of the Council, whensoever derived shall be applied solely for the promotion of the objects set forth herein read with the provisions of the Act. The income / surplus funds of the Council shall not be distributed to the Members under any circumstances. However, the Council may decide not to collect fees for any year under the provisions of Section 64L (2) of the Act.
 - (d) Proper and complete accounts shall be kept of all the sums of money received and expended by the Council/Committee and the matters in respect of which such receipts and expenditures takes place, and of property, credit and liabilities of the Council; and, subject to any reasonable restrictions as to the time and manner of inspecting the same that may be imposed in accordance with the regulations of the Council for the time being in force, the accounts shall be open for inspection by Members.
4. Register of Members
- (a) The Council shall maintain a register of all members containing, inter alia, the following particulars:
 - I. Name and address of each member and date of commencement of its membership.
 - II. Where any member has ceased to carry on general insurance business, the date of cessation of such business.
 - (b) Pursuant to the provisions of clause [b] of sub-section 2 of section 64F of the Act, the eight representatives

of the Committee shall be elected in the elections held after the first elections, in the manner as provided herein.

- (c) For the election of eight representatives of members of the Insurance Association of India carrying on general insurance business and for filling up any vacancy in the members of the Committee caused by resignation of an elected member or for other reasons, the Secretary General shall issue a notice of the election at least 21 days prior to the proposed date of election and invite nominations in writing from each of the said members.
- (d) Every nomination shall be duly proposed and seconded by the Chief Executive Officers of the general insurer nominating the person and of the general insurer seconding the nomination and also be duly signed by the candidate proposed in the nomination indicating his consent to be elected as a member of the Committee.

Provided that no person, other than the Chief Executive Officer [CEO] of an insurer shall be nominated as a candidate for election and no person other than the CEO, as may be specified in this behalf shall cast vote on behalf of an insurer.

- (e) Every such nomination shall be sent to the Secretary General before the time and date as may be specified by him while inviting nominations pursuant to the provisions of sub-regulation (2)
- (f) The Secretary General shall scrutinize the nomination papers on the date specified by him, and every nomination received beyond the specified date and time shall be rejected by him, for reasons to be recorded in writing.

Provided that the nomination form shall be in such form as may be specified by the Secretary General.

- (g) Any candidate may withdraw his nomination, by notice in writing signed by him, and delivered to the Secretary General by the date and time as may be specified by him, and withdrawal of candidature once tendered shall be irrevocable as far as that election is concerned.
- (h) The Secretary General shall intimate the names of persons whose valid nominations have been received and the withdrawal of any nominated candidate to all the members.
- (i) Where the number of candidates with valid nominations by close of the time allowed for nominations does not exceed the number of members to be elected, the candidates so nominated shall be declared elected by the Secretary General. Where the number of such candidates declared elected is less than eight, the Secretary General shall issue fresh notice inviting nominations for the remaining vacancies.
- (j) Where the number of candidates nominated exceeds the number of members to be elected, an election shall be conducted in the manner provided in this regulation.
- (k) The Secretary General, on the date to be specified by him, shall send in person or by registered post to the registered office of every member, a ballot paper together with necessary instructions as to how to fill in the ballot paper and specifying the date and time by which it shall be returned to him with the vote.
- (l) Every ballot paper shall bear the seal of the Council and shall contain the list of the candidates contesting the election.
- (m) Every member shall vote for as many candidates as there are vacancies in the Committee. Provided that where the registration of an insurer is suspended or cancelled by the Authority, and so long as such suspension or cancellation is not revoked by the Authority, such an insurer shall forfeit its right to nominate a candidate for election or vote at the election.
- (n) Every member while casting vote shall place on his ballot paper 'X' mark in the square opposite the name of the candidate for whom he votes.

- (o) Every member, after filling his ballot paper in the manner as stated in sub-regulation (13) shall send the same in a sealed envelope either in person or by registered post so as to reach the Secretary General not later than the date and time specified in this behalf by the Secretary General.
 - (p) A vote shall be deemed to be invalid in the event of any of the following instances or circumstances:
 - I. If the member signs his name or writes any word or makes any mark on the ballot paper by which the identity of the member is disclosed;
 - II. If the vote is recorded on a ballot paper which does not bear the seal of the Council;
 - III. If the “X” mark is not marked on the ballot paper in the manner as stated in sub-regulation (13);
 - IV. If the “X” mark is set opposite the names of more than the number of vacancies for which election is held;
 - V. If the ballot paper is unmarked or if the vote is otherwise void for uncertainty;
 - VI. If the ballot paper reaches the Secretary General beyond the specified time and date, for any reason whatsoever;
 - VII. If the member is otherwise disqualified from voting.
 - (q) The counting of votes shall take place at the office of the Council, on the date and time as may be specified by the Secretary General, in the presence of an independent scrutineer appointed by the Secretary General, and at the time of counting, the Secretary General may allow the presence of the candidates or their authorized representatives. Provided that the person to be appointed as an independent scrutinizer shall not be a candidate or his authorized representative.
 - (r) The votes shall be examined by the Secretary General, and after rejecting any invalid votes, he shall proceed to count the number of votes secured by each candidate.
 - (s) The Secretary General shall prepare a ranking list of the candidates in terms of the votes secured by each candidate, duly witnessed by the scrutinizer, and declare the results. Provided that in the event of a tie, the candidate representing an insurer with a larger gross direct general insurance premium in India in the immediately preceding year shall get precedence in the ranking list.
5. Meetings of the Committee and bye-laws for transaction of business at meetings
- (a) The Committee may meet for the dispatch of business as often as may be considered necessary, adjourn and otherwise regulate its meetings as provided in these regulations. Provided that the Committee shall meet at least six times in a calendar year for the conduct of business of the Council, and ordinarily such meetings shall take place at the office of the Council. One of these meetings shall be held in compliance with the requirements as prescribed in Section 64M (1) of the Act.
 - (b) The notice and agenda for the meeting shall be circulated at least seven days in advance by the Secretary General. Provided that any suggestions received from members less than seven days in advance may normally be taken for discussion at the subsequent meeting only, unless the Chairman of the Committee decides otherwise.

Provided further that the Chairman of the Committee may convene an emergent meeting of the Committee by giving at least forty-eight hours’ notice to transact business that cannot wait for the procedures of an ordinary meeting of the Committee.
 - (c) An item not included in the agenda of a meeting of the Committee may be taken up for consideration, if so, approved by the Chairman of the Committee.
 - (d) The Chairman of the Committee shall preside at all the meetings, and in his absence, the members present shall elect one among them to be the Chairman (Presiding Member) of that meeting.

- (e) The quorum for a meeting of the Committee shall be five members.
 - (f) If at any meeting, the required quorum is not present, the Chairman or the Presiding Member, as the case may be, shall after waiting for thirty minutes from the scheduled commencement time of the meeting, adjourn the meeting to such hour in the same day or some other day as he may deem fit.
 - (g) Where at the adjourned meeting also the required quorum is not present, the members present shall constitute the quorum, and they can proceed to transact the business.
 - (h) All matters required to be decided by the Committee shall be decided by a majority of the votes of members present. Provided further that any member of the Committee who is specifically involved in any matter for the time being before the Committee shall not be present or take part in any deliberation relating thereto.
 - (i) Any matter for the consideration of the Committee may at the discretion of Chairman of the Committee be decided by circulation among the members as an alternative to convening a meeting for the purpose. Provided that the decision arrived at shall not be valid unless at least four members, entitled to vote thereon, signify their consent to the decision.
 - (j) The Secretary General shall record and keep the minutes of proceedings at the meetings of the Committee.
 - (k) The minutes shall contain a fair and correct summary of the decisions arrived at the meeting.
 - (l) The Secretary General shall send a copy of the minutes to each of the members, and the same shall be placed at the next meeting of the Committee for confirmation.
6. Traveling and daily allowance
- Every member and invitee shall be entitled for attending the meetings of the Committee reimbursement of travel and other expenses, incidentals and sitting fees as may be decided by the Committee from time to time.
7. Duties and Powers of the Executive Committee -
- Consistent with the provisions of Regulation 3 and in discharge of its functions, the Committee shall have the power:-
- (a) To acquire by way of purchase or gift or to take on lease or hire or otherwise any movable or immovable property;
 - (b) To sell, assign, mortgage, lease, exchange, transfer or otherwise deal with all or any property, movable or immovable of the Council in any way it may consider necessary;
 - (c) To construct, develop, renovate, expand or alter any movable or immovable property in the possession of the Council and to take necessary action for proper maintenance of any such movable or immovable property.
 - (d) To open and maintain bank accounts and to draw, accept, endorse, discount, execute, sign, issue or otherwise deal with cheques, drafts, certificates, receipts, Government Securities, promissory notes, bills of exchange or other negotiable instruments;
 - (e) To borrow or raise or secure the payment of money in such other manner as the Committee shall deem fit.
 - (f) To defend and institute any suit or other legal proceedings on behalf of the Council / Committee.
 - (g) To create administrative, technical and other posts under the Council and make appointments thereto in accordance with the Rules to be framed by the Committee.
 - (h) To maintain provident and other funds for the benefit of the employees of the Council and their dependents;
 - (i) To undertake all such activities as are deemed necessary for promoting the objects for which council is established.

- (j) To prescribe code of professional conduct and practice and to issue guidance notes on professional matters.
- (k) To insure against such damages, risks, accidents and liabilities of all kinds which may affect the Council in any way or in respect of the staff of the Council or in respect of the property belonging to or leased by the Council and to pay premiums on all such insurance
- (l) To appoint and or consult professionals, advisors, consultants whether for remuneration or otherwise.
- (m) To approve the Rules of operations of the Executive Committee's Secretary General.

8. Sub-Committees

Subject to the provisions of sub-section (5) of section 64F of the Act, the Council may form such other committees consisting of such persons as it may think fit to discharge such functions as may be delegated there to.

9. Secretary General

- (a) The Secretary General of the Committee shall be a person nominated by the Authority pursuant to the provisions of subsection (6) of Section 64 F of the Act.
- (b) The Secretary General shall act as the Chief Executive Officer of the Council, who shall be responsible for the direction, organization, management and performance of the employees and staff of the Council.
- (c) The Secretary General shall work under the supervision and control of the Committee.
- (d) The Secretary General shall, with the approval of the Committee, appoint other employees and staff as may be necessary for the work of the Council
- (e) The Secretary General and all other employees and staff shall be paid salaries, benefits, allowances and perquisites out of the funds of the Council/Committee and shall be subject to the Service Conditions and Rules as may be framed by the Committee from time to time
- (f) The Secretary General shall furnish to the Authority a report not later than 3 months from the close of the financial year on the various activities performed by the Executive Committee during the preceding year.
- (g) Without prejudice to the generality of the powers, functions and duties as stated herein above, the Secretary General shall have the powers necessary and appropriate to manage the affairs of the Committee and to carry on the day-to-day management and other matters related to the Council.

10. Business Plan and Budget

The Committee shall ensure that:

- (a) The Council adopts a Business Plan and Budget for each financial year;
- (b) It conducts the business in accordance with the Business Plan and Budget;
- (c) At least two months before the commencement of each financial year, the Secretary General shall prepare and circulate to the Members of the Committee a draft Business Plan and Budget for the following financial year;
- (d) the Committee shall consider the draft Business Plan and Budget and adopt a business plan and budget for the next financial year before commencement of that financial year.

11. Funds of the Council/EC

The expenses of the Council shall be funded through equal subscriptions from each Member which will be collected from the members in the manner and within the time as may be specified by the Committee. The Committee shall call for special contributions from members for specific large approved expenses. All subscriptions are payable by the members on demand.

12. Accounts and Audit

- (a) The financial year of the Council shall be from 1st day of April of each year to the 31st day of March of the following year.
- (b) The Committee shall every year cause to be prepared a statement of the income and expenditure of the Council for the year ending on 31st March and of its liabilities and assets as at that date, and such statements after having been verified and signed by the auditor, shall be laid before the Annual General Meeting of the Council/EC together with any report thereon made by the Auditor.
- (c) The Committee shall draw up a Report on the affairs of the Council/EC and the activities of the previous year, which shall be submitted at every Annual General Meeting before 30th September of each year. A copy of that report shall be furnished to the Authority immediately after its presentation to the Council.
- (d) An auditor shall be appointed by the Committee each year to audit all the accounts of the Council, verify and sign the annual statements of Income and Expenditure and the Balance Sheet prepared by the Committee and shall make a report thereon. Provided that a person shall not be qualified for appointment as auditor, unless he is a Chartered Accountant within the meaning of the Chartered Accountants Act, 1949 (38 of 1949).

12. General Meetings and Annual Meeting of the Council

- (a) General Meetings of the Council shall be held at periodic intervals as may be considered necessary by the Committee or the Chairman.
- (b) An annual general meeting of the Council shall be held each year not later than three months after the closure of the financial year, at such time and place as the Committee may determine to consider the following agenda:
 - I. To receive and consider the Report of the Committee on the affairs of the Council and its activities for the previous year;
 - II. To receive and consider the annual audited statements of accounts for the previous year ending on 31st day of March;
 - III. To appoint the auditor for the next year and fix his remuneration;
 - IV. To consider any other matter that the Committee/ Council has approved for placing before the annual general meeting.
- (c) The Chairman of the Committee shall preside over the annual general meeting, and in his absence, any member of the Committee as may be decided by the members present shall preside.
- (d) The quorum required shall be two thirds of the total number of members for the time-being of the Council. Provided that where the required quorum is not present, the provisions of Regulation 5 shall apply mutatis mutandis.

13. Indemnity of Officers

The members of the Committee and Officers of the Committee shall be indemnified by the Council from all losses and expenses incurred by them in or about the discharge of their respective duties, except such as happen from their own respective wilful default, and no member of the Committee shall be liable for any other member of the Committee or Officers, for signing any receipt or document or for any act of conformity unless the same shall be due to his own wilful default.

14. Information to press

No person, other than a person specifically authorized by the Committee, shall give information to the press or

any other public media on matters relating to decisions, views, and opinions of the Council or the Committee as the case may be.

15. Disputes

If any doubt or dispute arises regarding the interpretation of the provisions of these regulations or regarding the validity of any election held under these regulations, the same shall be referred to the Authority, whose decision there on shall be final and binding.

16. Savings

No election shall be deemed to be invalid merely on account of any accidental omission to send, or delay in sending a ballot paper or the accidental non-receipt of, or delay in receiving a ballot paper by a member, or any other accidental irregularity or infirmity in the conduct of an election.

7.2.5 De-tariffing in General Insurance:

Ending all speculations about the launching of the de-tariffing regime in the general insurance industry, Insurance Regulatory & Development Authority (IRDA) has notified the abolition of the tariffing regime. Now it is final and IRDA is launch the new regime. De-tariffing will allow the general insurers to fix their own pricing for almost 70% of the general insurance products which was earlier determined by the Tariff Advisory Committee, supervised by IRDA.

Earlier, IRDA had said that the domestic general insurance companies would be allowed to change the pricing of products but not the terms and conditions of the policy till March 2008. IRD has also described the operations of third-party motor insurance business post de-tariffing. The regulator had decided to form a pool to be participated in by all the general insurers to function as a parallel entity to give policyholders an alternative choice in motor insurance.

In the de-tariffed scenario, insurance companies will arrive at premiums based on their assessment of risk on a case-to-case basis. Customers with a good risk profile would enjoy lower premiums. At the corporate level, intra-portfolio cross subsidization will be replaced by product-level pricing, as a result of which fire insurance premiums may see some reduction.

Conversely, group health and marine insurance premiums are likely to move up with companies reviewing their coverage in order to optimize pricing. Motor insurance is expected to gravitate towards risk-based pricing.

Insurers are building robust and practical rating models that are able to arrive at the correct premium with the available data. Initially the market may be volatile as insurance companies test their premium rating models in a competitive environment but over time this would stabilize.

The ongoing validation and refinement of these models with their underlying assumptions will be based on the subsequent claims experience and the overall portfolio profitability. The comfort of an anchor tariff rate has made the industry more transaction focused and one will now be required to transition towards a business and P&L driven approach. Transparency, corporate governance and fairness in dealings will define the relationship between insured, insurer and intermediary and ensure a win-win for all the constituents.

To retain customers in a competitive scenario, insurers will focus on customer service as a key differentiator. There will be an increase in the use of virtual channels to reach out to and service customers in order to reduce operational costs and pass on these benefits to the end customer. Investments in technology and operations will provide the backbone for an efficient and effective business operation and can become a significant source of competitive advantage.

7.2.6 IRDA's Exposure/Prudential Norms:

The guidelines are based on the RBI guidelines issued in this regard, duly modifying, keeping in view the industry specific requirements. Any item not covered below will be governed by the provisions as mandated by the RBI for banks.

Asset Classification:

Adequate provision shall be made for estimated loss arising on account from/under recovery of loans and advances (other than loans and advances granted against insurance policies issued by the insurer) outstanding at the balance sheet date. Insurers shall classify their loans/advances into four categories, viz., (i) standard assets, (ii) sub-standard assets, (iii) doubtful assets and (iv) loss assets. Classification of assets into these categories shall be done taking into accountability of the borrower to repay and the extent of value and realizability of security.

Standard Assets :

Standard asset is one which does not disclose any problem and which does not carry more than normal risk attached to the business. Such an asset is not an NPA. The insurer should make a general provision on Standard Assets of a minimum of 0.40 percent of the value of the asset.

In respect of loans extended directly by insurers to sick units taken over by borrowers falling under the "standard" classification, the facilities of the transferee and merged units may continue to be classified separately, for a period not exceeding 24 months from the date of the takeover of the sick unit, after which the performance of the loans sanctioned to the borrower as a whole should determine their classification. In cases of reverse merger (i.e., takeover of a healthy unit by a sick unit) as well, the facilities of both the units may continue to be classified separately for a period of 24 months after which the combined performance may be taken for asset classification.

Sub-standard assets:

Sub-standard asset is one which has been classified as NPA for a period not exceeding 12 months, e.g., an asset which has been treated as an NPA on 1st April, 2004, would be treated as a sub-standard asset only up to 31st March 2005.

In case of time over run for completion of project directly financed by insurers, the Boards of Insurers should decide based on valid grounds, whether the advance should be treated as standard asset.

An asset where the terms of the loan agreement regarding interest and principal have been renegotiated or rescheduled after commencement of production, should be classified as sub-standard and should remain in this category for at least two years of continually satisfactory performance under the revised terms. The classification of an asset should not be upgraded merely as a result of rescheduling, unless there is satisfactory compliance of the above condition.

Doubtful assets:

A doubtful asset is one which has remained as NPA for a period exceeding 12 months, e.g., a loan facility to a borrower which is treated as NPA on 1st April, 2004 would be treated as 'doubtful' from 1st April, 2005.

A loan classified as doubtful has besides the weakness inherent in that classified as sub-standard, with the continuing default makes the recovery in full, to be improbable. Here too, as in the case of sub-standard assets, rescheduling does not lead upgradation of the category of the asset automatically. Similarly, a doubtful asset which is subject to rehabilitation and where the asset has been subsequently continually satisfactorily serviced for one year's shall be graduated to a standard asset.

Loss assets:

A loss asset is one where loss has been identified by the insurer or its internal or statutory auditors or by IRDA, but the amount has not been written off wholly. In other words, such an asset is considered un-collectible and as

such its continuance as a bankable asset is not warranted although there may be some salvage or recovery value.

Overdue Amounts Interest/Principal:

An amount, whether interest or principal, is said to be overdue if it is not paid to the insurer on the specified date. An asset is classified as an NPA if the interest and/or instalment of principal remain overdue for more than 90 days.

Provisioning for Loans and Advances:

Taking into account the time lag between an account becoming doubtful of recovery, its recognition as such, the realisation of the security and the erosion in the value of security charged to the insurers, it is necessary that insurers make adequate provisions against sub-standard assets, doubtful assets and loss assets, as per the procedure outlined below:

Loss assets treatment:

The entire asset should be written off. If the assets are to remain in the books for any reason, 100 per cent of the outstanding should be provided for.

Doubtful assets treatment:

- (a) 100 percent provision of the extent to which the asset is not covered by the realisable value of the security to which the insurer has a valid recourse and the realisable value is estimated on a realistic basis.
- (b) Over and above item (a) above, depending upon the period for which the asset has remained doubtful, 20% to 100% provision of the secured portion (i.e., estimated realisable value of the outstanding) should be made on the following basis:

Period for which the asset has been considered as doubtful %of provision:

Up to one year 20%

One to three years 30%

More than three years 100%

Sub-standard assets treatment :

- (i) A general provision of 10% of total value outstanding remaining substandard is required to be made including loans granted by the Central/State government.
- (ii) Loans granted under rehabilitation packages
- (iii) In case of nursing finance granted by an insurer, the additional loan facilities sanctioned under the rehabilitation programme may be treated as a separate account and the performance assessed separately. Asset classification and provisioning in respect of such loan facilities as per the prescribed guidelines may be made only if the interest/principal payments remain due beyond one quarter.

It is clarified that the proviso has been included to take care of the existing portfolio of the insurers.

Defaults in repayment of principal

On account of various reasons, such as delays in project implementation, getting adequate working capital facilities, etc., repayment of principal may be delayed beyond the stipulated one quarter. The asset may continue to be considered as standard if the instalments of the principal amount are rescheduled with the approval of the Board of the concerned insurer. This is subject to the condition that there can be only a one-time re-schedulement and that the interest continues to be paid regularly.

Time overrun:

In case of time over run for completion of project directly financed by insurers, the Boards of Insurers should decide based on valid grounds, whether the advance should be treated as standard asset.

One Time Settlement (OTS):

- (a) In respect of loan facilities extended to sick units (under nursing programmes or otherwise) taken over by borrowers falling under the “standard” classification, the facilities of the transferee and the merged units may continue to be classified separately for a period not exceeding 2 years from the date of takeover of the sick unit, after which the performance of the loan facility sanctioned to the borrower as a whole should determine their classification.
- (b) Sometimes insurers enter into one time settlement (OTS) of their dues with a new owner. In cases where a sick unit has been merged with a healthy and strong unit and where payments are being made as per the OTS scheme, the asset in respect of the merged unit may be considered as standard without waiting for a period of 2 years for upgradation from sub-standard to standard asset. However, such cases should be approved by the Board of the concerned insurer.

Units Enjoying More than One Loan Facility:

In case of borrowers who have been granted more than one loan facility by the insurer, all the dues from them will have to be treated as NPAs if 50 percent of its total interest and/or principal dues from all loans extended to it remain overdue for more than one quarter.

Government Guaranteed Loans:

Loans or other credit facilities backed by Central/State Government guarantees should be treated on par with other assets for income recognition and provisioning. However, in respect of loans backed by Central Government guarantee, such loans shall be treated as NPA only when the Government repudiates its guarantee when invoked.

Income Recognition :

Income in respect of any asset classified as NPA shall not be recognized unless realized. However, any adjustment towards overdue interest against any fresh/additional loan shall not be considered as realized.

Listed equities – investments only in “actively traded scrips”

All listed equity investments to be made only in those securities which are actively traded in stock exchanges, i.e., other than ones which are classified as “thinly traded” as per SEBI Regulations.

Investment Controls based on Exposure Norms :

These norms aim to control the investment risk by limiting the exposure to the Company where the funds are invested, limiting the exposure to a Group of companies to which the Investee company belongs to and also limits the exposure to one industry. This follows the golden principle “do not put all your eggs in one basket”.

Exposure norms are applicable to all the three investment categories based on the types of business given above and shall be calculated for the following types of investments:

- (a) Approved investments;
- (b) ‘Other investments’;
- (c) Housing & infrastructure investments.

Investee Company Limits:

There are 2 limits for calculation of exposure norms to an Investee company:

- (a) Overall exposure limit of all the funds of the insurer in all types of Securities in a Single Company.
- (b) Security-wise exposure limit for each Investee company for each type of investment category.

The lower of (a) or (b) above determines the exposure limit for an Investee Company.

(a) Overall Exposure Limit:

The overall exposure limit is calculated as follows:

- (i) Aggregate all types of investments, viz., equity, debt etc. in a Single investee company.
- (ii) Aggregate investment assets of the insurer (i.e., addition of unit reserves, pension and annuity including Group and Life insurance funds)
- (iii) (i) divided by (ii) shall not exceed 10%.

In the case of non-life insurers, the limit is 10% of their total funds.

(b) Exposure limit based on nature of security for each type of fund

(i) For investment in equity, preference shares and convertible debentures

The limit is calculated as 10% of the outstanding face value of equity shares of the Investee company or 10% of assets belonging to each investment category based on type of business (unit reserves, Pension and Annuity including Group and Life insurance business). For non-life, total investment assets (policyholders' funds and shareholders' funds) are considered.

The lower of (a)(iii) and (b)(i) is the Investee company limit.

(ii) For investments in Debentures, loans and other permitted investments (other than mentioned in (i) above)

The limit is calculated as 10% of the Capital, Free reserves, Debentures and Bonds of the investee company or 10% of each investment category based on type of business, as mentioned in (i) above.

The lower of (a)(iii) and (b)(ii) is the Investee company limit.

Increase in the limit of 10% based on the size of investment assets:

If the size of investment assets for an insurer touches ₹ 50,000 Crores, the investee company limit (on outstanding face value of equity shares for equity and Paid-up capital, free reserves, debentures and bonds for Debt, loans and other permitted investments) stands increased to 12% and if the amount touches ₹ 2,50,000 Crores, the limit stands further enhanced to 15%.

Therefore, even though as per one rule, a limit of 10% for equity shares and 10% for debentures for each investment asset category is allowed, the overall exposure limit under (a) above, would bring down the exposure to 10% of all the funds. On the other hand, even though an insurance company is within 10% on the overall exposure limit under (a) above, it still will have to be within the limit of 10% for equity shares and 10% for debentures separately for each investment asset category. Thus, the investee company limits aim to achieve two objectives:

- (a) Limiting the investment in each type of security, viz., equity, debt in each investee company to 10% of each type of investment category, i.e., unit reserves, pension & annuity and life insurance business.
- (b) Limiting the overall exposure (all investments put together) to one investee company to 10% of overall investment assets.

The above 2 limits are subject to a further limit of 10% (of 12% or 15% in some cases as explained above) of outstanding face value of equity shares of the investee company (for equity investments) or Share capital, free reserves, bonds, debentures (for Debentures, loans and other permitted investments), as the case may be.

Special dispensation for Infrastructure related investments

Exposure to a Public Limited Infrastructure investment company can be increased to 20% of the Equity capital at

face value for equity investments and 20% of equity plus free reserve plus debentures and bonds in the case of debt. However, this is subject to the overall exposure (all investments put together) at 10% of overall investment assets.

A special dispensation has also been given to Public Sector Special Purpose Vehicle engaged in infrastructure sector by allowing an investment upto 20% of the project cost, which is categorised as Approved investments, subject to the limit of 10% of overall investment assets.

Investment in Immovable Properties:

The limit for investments in immovable property is 5% of the aggregate of life funds, pension and annuity funds and group funds in the case of life insurers and 5% of investment assets in the case of general insurer.

Investments in Promoter Group companies of insurer :

The overall limit for investments in all the Promoter Group companies of the insurer is set at 5% of the aggregate funds of the insurer. Investments in Private equities prohibited. However, investments in subsidiary companies allowed in terms of the provisions of Section 27A or 27B of the Insurance Act, 1938.

Investment in Securitised Assets, e.g., Asset backed securities :

The limit is 10% of investment assets for Life insurers and 5% for non-life insurers.

Exposure to financial and insurance activities :

The exposure to these activities under the industry exposure norms cannot exceed 25% of investment assets. However, this limit excludes Bank deposits in terms of Section 27A or 27B.

Limits for Group to which Investee Company belongs to:

The limit to a Group to which the Investee company belongs shall be the least of the following:

- (a) 15% of each of the investment asset categories.
- (b) 15% of investment assets in all Companies belonging to the Group.

Industry exposure limits:

The limit to the industry to which the investee company belongs to shall be the least of the following:

- (a) 15% of each of the investment asset categories.
- (b) 15% of investment assets.

7.2.7 Solvency Margins of Non-life Insurers:

Solvency Margin denotes the excess of assets over liabilities of an insurance company. This is equivalent of Net worth which denotes the financial health of the Company. As per IRDAI Regulations, the minimum statutory solvency ratio must be 1.5 at all times for an insurance company. That is to say, the Assets must be 1.5 times of Liabilities at all times. If there is a threat of solvency margin falling below the threshold level of 1.5, the Shareholders will have to bring in extra capital to boost solvency. This usually happens in the initial period of an insurance company and Companies which are growing significantly without a good Renewal premium book. Under such circumstances, the Company would burn more expenses without corresponding income (which can come in future years) and therefore increasing losses. If the loss increases, Solvency will be impacted as the Net worth will decrease.

IRDAI have issued separate Regulations on Assets, Liabilities and Solvency Margins. These Regulations give the method of valuation of Assets and Liabilities of Insurance companies.

On Valuation of Assets, the above Regulations provides as follows

The following assets shall value at 'zero value':

- (a) Agents' balances and outstanding premiums in India to the extent they are not realised within a period of 30 days;
- (b) Agent's balance and outstanding premiums outside India to the extent they are not realisable Sundry debts to the extent that they are not realisable;
- (c) Advances of unrealisable character;
- (d) Furniture, Fixtures, Dead stock and Stationery;
- (e) Deferred expenses;
- (f) Profit & Loss account and any other fictitious assets other than Prepaid expenses;
- (g) Reinsurers' balances outstanding for more than 3 months;
- (h) Preliminary expenses in the formation of the Company;

Computer equipment's, including Software shall be valued as follows:

- (a) 75% of its cost in the year of purchase;
- (b) 50% of its cost in the second year;
- (c) 25% of its cost in the third year;
- (d) 0% thereafter.

All other assets shall be valued as per IRDAI Regulations on Financial Statements and Auditors' Report for Insurance Companies.

The solvency ratio is a measurement of a company's cash flow and its liabilities. In simple words, it helps to know whether or not the company has adequate funds to manage its short-term and long-term liabilities. A low solvency ratio means that the company might find it difficult to manage its financial obligations and default payments.

Conversely, if the solvency ratio is high, it means that the company has adequate funds to manage its financial obligations. A higher solvency ratio is generally considered a sign of trustworthiness.

The solvency ratio formula is:

$$\text{Solvency Ratio} = (\text{Net income} + \text{Depreciation}) / \text{Liabilities}$$

Solvency Margins of Non-Life Insurers:

Every insurer is required to maintain a Required Solvency Margin as per Section 64VA of the Insurance Act, 1938. Every insurer shall maintain an excess of the value of assets over the amount of liabilities of not less than an amount prescribed by the IRDA, which is referred to as a Required Solvency Margin. The IRDAI (Assets, Liabilities and Solvency Margin of Life Insurance Business) Regulations, 2016 and the IRDAI (Assets, Liabilities and Solvency Margin of General Insurance Business) Regulations, 2016 describe in detail the method of computation of the Required Solvency Margin. *(Source: IRDAI Annual Report)*

Solvency Ratio of Life Insurers:

In the case of life insurers, the minimum Required Solvency Margin is rupees fifty crore (rupees one hundred crore in the case of reinsurer) and arrived at in the manner specified by the Authority. The Insurance Laws (Amendment)

Act, 2015 specifies a level of solvency margin known as control level of solvency, on the breach of which, the Authority shall direct the insurer to submit a financial plan indicating a plan of action to correct the deficiency within a specified period not exceeding six months.

At the end of March 2021, all 24 life insurers complied with the stipulated solvency ratio of 1.5.

(Source: IRDAI Annual Report)

Solvency Ratio of General and Health Insurers:

As at March 31, 2021, 26 out of 27 private sector general insurers (including the standalone health insurers) have complied with the stipulated Solvency Ratio of 1.50. Reliance Health Insurance Ltd. reported solvency ratio of 0.26 as on March 31, 2021. The business portfolio of Reliance Health Insurance Ltd. was transferred to Reliance General Insurance Co. Ltd vide IRDAI Order IRDA/F&A/ ORD/SOLP/200/11/2019 dated November 06, 2019.

For computation of solvency ratio as on March 31, 2021, three public sector general insurance companies viz. National, Oriental and United have been allowed to consider 65 per cent of Fair Value Change Account as on March 31, 2021. Further, all the four public sector general insurance companies have been allowed to amortise their pension liability towards OMOP over a period not exceeding 5 years from financial year 2019-20.

With aforesaid forbearance, National, Oriental and United have reported solvency ratio of 0.62, 1.40 and 1.41 times respectively, as on March 31, 2021.

New India has reported solvency ratio of 2.13 as on March 31, 2021. As at March 31, 2021, the specialized insurers, i.e., AIC and ECGC reported a solvency ratio of 2.09 and 19.25 respectively.

(Source: IRDAI Annual Report)

Solvency Ratio of Reinsurers:

The national reinsurer, General Insurance Corporation of India reported a solvency ratio of 1.74 as on March 31, 2021. All foreign reinsurance branches have reported solvency margin above 1.50 as on March 31, 2021.

(Source: IRDAI Annual Report)

Concept and Types of Health Insurance Policies

7.3

Health insurance is insurance that covers the whole or a part of the risk of a person incurring medical expenses, spreading the risk over a large number of persons. By estimating the overall risk of health care and health system expenses over the risk pool, an insurer can develop a routine finance structure, such as a monthly premium or payroll tax, to provide the money to pay for the health care benefits specified in the insurance agreement. The benefit is administered by a central organization such as a government agency, private business, or not-for-profit entity.

A health insurance policy is a contract between an insurance provider (e.g., an insurance company or a government) and an individual or his/her sponsor (e.g., an employer or a community organization). The contract can be renewable (e.g., annually, monthly) or lifelong in the case of private insurance, or be mandatory for all citizens in the case of national plans. The type and amount of health care costs that will be covered by the health insurance provider are specified in writing, in a member contract or “Evidence of Coverage” booklet for private insurance, or in a national health policy for public insurance.

The individual insured person’s obligations may take several forms:

Premium: The amount the policy-holder or their sponsor (e.g., an employer) pays to the health plan to purchase health coverage.

Deductible: The amount that the insured must pay out-of-pocket before the health insurer pays its share. For example, policy-holders might have to pay a ₹ 500 deductible per year, before any of their health care is covered by the health insurer. It may take several doctor’s visits or prescription refills before the insured person reaches the deductible and the insurance company starts to pay for care. Furthermore, most policies do not apply co-pays for doctor’s visits or prescriptions against your deductible.

Co-payment: The amount that the insured person must pay out of pocket before the health insurer pays for a particular visit or service. For example, an insured person might pay a ₹ 45 co-payment for a doctor’s visit, or to obtain a prescription. A co-payment must be paid each time a particular service is obtained.

Coinsurance: Instead of, or in addition to, paying a fixed amount up front (a co-payment), the coinsurance is a percentage of the total cost that insured person may also pay. For example, the member might have to pay 20% of the cost of a surgery over and above a co-payment, while the insurance company pays the other 80%. If there is an upper limit on coinsurance, the policy-holder could end up owing very little, or a great deal, depending on the actual costs of the services they obtain.

Exclusions: Not all services are covered. Billed items like use-and-throw, taxes, etc are excluded from admissible claim. The insured are generally expected to pay the full cost of non-covered services out of their own pockets.

Coverage limits: Some health insurance policies only pay for health care up to a certain dollar amount. The insured person may be expected to pay any charges in excess of the health plan’s maximum payment for a specific service. In addition, some insurance company schemes have annual or lifetime coverage maxima. In these cases, the health plan will stop payment when they reach the benefit maximum, and the policy-holder must pay all remaining costs.

Out-of-pocket maxima: Similar to coverage limits, except that in this case, the insured person's payment obligation ends when they reach the out-of-pocket maximum, and health insurance pays all further covered costs. Out-of-pocket maxima can be limited to a specific benefit category (such as prescription drugs) or can apply to all coverage provided during a specific benefit year.

Capitation: An amount paid by an insurer to a health care provider, for which the provider agrees to treat all members of the insurer.

In-Network Provider: A health care provider on a list of providers pre-selected by the insurer. The insurer will offer discounted coinsurance or co-payments, or additional benefits, to a plan member to see an in-network provider. Generally, providers in network are providers who have a contract with the insurer to accept rates further discounted from the "usual and customary" charges the insurer pays to out-of-network providers.

Prior Authorization: A certification or authorization that an insurer provides prior to medical service occurring. Obtaining an authorization means that the insurer is obligated to pay for the service, assuming it matches what was authorized. Many smaller, routine services do not require authorization.

Explanation of Benefits: A document that may be sent by an insurer to a patient explaining what was covered for a medical service, and how payment amount and patient responsibility amount were determined.

Types of Health Insurance Policies:

Health insurance plans in India today can be broadly classified into these categories:

Hospitalization:

Hospitalization plans are indemnity plans that pay cost of hospitalization and medical costs of the insured subject to the sum insured. The sum insured can be applied on a per member basis in case of individual health policies or on a floater basis in case of family floater policies. In case of floater policies, the sum insured can be utilized by any of the members insured under the plan. These policies do not normally pay any cash benefit. In addition to hospitalization benefits, specific policies may offer a number of additional benefits like maternity and new-born coverage, day care procedures for specific procedures, pre- and post-hospitalization care, domiciliary benefits where patients cannot be moved to a hospital, daily cash, and convalescence.

There is another type of hospitalization policy called top-up policy. Top up policies have a high deductible typically set a level of existing cover. This policy is targeted at people who have some amount of insurance from their employer. If the employer provided cover is not enough people can supplement their cover with the top-up policy. However, this is subject to deduction on every claim reported for every member on the final amount payable.

Family Floater Health Insurance :

Family health insurance plan covers entire family in one health insurance plan. It works under assumption that not all member of a family will suffer from illness in one time. It covers hospital expense which can be pre and post. Most of health insurance companies in India offering family insurance have good network of hospitals to benefit the insurer in time of emergency.

Pre-Existing Disease Cover Plans :

It offers covers against disease that policyholder had before buying health policy. Pre-Existing Disease Cover Plans offers cover against pre-existing disease e.g., diabetes, kidney failure and many more. After Waiting period of 2 to 4 years it gives all covers to insurer.

Senior Citizen Health Insurance :

As name suggests these kinds of health insurance plans are for older people in the family. It provides covers and protection from health issues during old age. According to IRDA guidelines, each insurer should provide cover up to the age of 65 years.

Maternity Health Insurance :

Maternity health insurance ensures coverage for maternity and other additional expenses. It takes care of both pre- and post-natal care, baby delivery (either normal or caesarean). Like Other Insurance, the maternity insurance provider has wide range of network hospitals and takes care of ambulance expense.

Hospital Daily Cash Benefit Plans :

Daily cash benefits are a defined benefit policy that pays a defined sum of money for every day of hospitalization. The payments for a defined number of days in the policy year and may be subject to a deductible of few days.

Critical Illness Plans :

These are benefit-based policies which pay a lump-sum (fixed) benefit amount on diagnosis of covered critical illness and medical procedures. These illnesses are generally specific and high severity and low frequency in nature that cost high when compared to day to day medical / treatment need. e.g., heart attack, cancer, stroke etc. Now some insurers have come up with option of staggered payment of claims in combination to upfront lump-sum payment.

Pro Active Plans :

Some companies like Cigna TTK offer Pro-active living programs. These are designed keeping in mind the Indian market and provide assistance based on medical, behavioural and lifestyle factors associated with chronic conditions. These services aim to help customers understand and manage their health better.

Disease Specific Special Plans:

Some companies offer specially designed disease specific plans like Dengue Care. These are designed keeping in mind the growing occurrence of viral diseases like Dengue in India which has become a cause of concern and thus provide assistance based on medical needs, behavioural and lifestyle factors associated with such conditions. These plans aim to help customers manage their unexpected health expenses better and at a very minimal cost.

Healthcare has become one of India's largest sectors - both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players.

Indian healthcare delivery system is categorised into two major components - public and private. The Government, i.e., public healthcare system comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of primary healthcare centres (PHCs) in rural areas. The private sector provides majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier I and tier II cities. India's competitive advantage lies in its large pool of well-trained medical professionals. India is also cost competitive compared to its peers in Asia and Western countries. The cost of surgery in India is about one-tenth of that in the US or Western Europe.

Government Sponsored Health Insurance Schemes:

Rashtriya Swasthya Bima Yojana ('RSBY')

This is a Health insurance scheme launched by the Ministry of Labour and Employment, Government of India for Below the Poverty Line ('BPL') families. The beneficiary under this Scheme is any Family included as BPL family in the District BPL List prepared by State Governments. Such BPL family needs to enrol by identifying before the authorised official.

Benefits (insurance coverage):

Under this Scheme, hospitalisation expenses up to ₹30,000 for a family comprising of up to 5 members is provided on a floater basis. Under a floater cover any one or more of the members is eligible to claim the hospitalisation expenses. In addition, cost of Transportation up to ₹100 per visit with a ceiling of ₹1,000 is also reimbursed. No

age limits have been prescribed for the Members to get enrolled into this Scheme. Hospitalisation means admission to hospital for 24 hours or more. RSBY applies to such hospitalisation, including maternity related treatments. However, it includes such day care treatments entailing less than 24 hours for certain treatments specified in the Scheme. All pre-existing illnesses on the date of admission to the Scheme are also covered.

Premium payable:

The Premium payable for RSBY is different for different districts. State Governments select insurance companies through a bidding process and technically qualified lowest bidder is selected.

Who pays the Premium:

Total premium is funded by the Central and State Governments, with Central Government bearing 75% of the Premium payable (90% in the case of J&K State) and the balance is borne by the respective State Government. Beneficiaries will have to pay only an Enrolment fee of ₹ 30.

Policy coverage period:

The Policy is issued by the concerned Insurance Company for a maximum period of 1 year and usually ends on 30 April and can be renewed for further periods of 1 year. An active Smart Card is issued to the Beneficiary to claim the benefits. Over 3.50 Crore beneficiaries have been issued Smart Cards and over 1.40 Crores beneficiaries have availed benefits as of 31 March 2017 under this Scheme.

Employees State Insurance:

Employees State Insurance Act, 1948 is the governing Act in this regard. Under Section 2(12) the Act is applicable to non-seasonal factories employing 10 or more persons.

Under Section 1(5) of the Act, the Scheme has been extended to shops, hotels, restaurants, cinemas including preview theatres, road-motor transport undertakings and newspaper establishments employing 10 or more persons.

Further under section 1(5) of the Act, the Scheme has been extended to Private Medical and Educational institutions employing 10 or more persons in certain States/Union Territories.

What is ESI Scheme?

Employees' State Insurance Scheme of India is a multi-dimensional Social Security Scheme tailored to provide Socio-economic protection to the 'employees' in the organised sector against the events of sickness, maternity, disablement and death due to employment injury and to provide medical care to the insured employees and their families.

How does the scheme help the employees?

The scheme provides full medical care to the employee registered under the ESI Act, 1948 during the period of his incapacity, restoration of his health and working capacity. It provides financial assistance to compensate the loss of his/ her wages during the period of his abstention from work due to sickness, maternity and employment injury. The scheme provides medical care to his/her family members also.

Who administers the ESI Scheme?

The ESI Scheme is administered by a statutory corporate body called the Employees' State Insurance Corporation (ESIC), which has members representing Employers, Employees, the Central Government, State Government, Medical Profession and the Hon'ble Members of Parliament. Director General is the Chief Executive Officer of the Corporation and is also an ex-officio member of the Corporation.

The ESI scheme is a self-financing scheme. The ESI funds are primarily built out of contribution from employers and employees payable monthly at a fixed percentage of wages paid. The State Governments also bear 1/8th share of the cost of Medical Benefit.

What is registration of Factory/ Establishment?

Registration is the process, by which every factory/ establishment, to which the Act applies, gets itself registered online for compliance. Otherwise, when a factory/ establishment is identified by ESIC, it is asked to get itself registered under the Act. It is the statutory responsibility of the employer under Section 2A of the Act read with Regulation 10-B, to register their Factory/ Establishment under the ESI Act within 15 days from the date of its applicability to them.

If the wages of an employee exceed ₹21,000 in a month, he continues to be an employee till the end of that contribution period and the contribution is to be deducted and paid on the total wages earned by him.

What is the benefit admissible to the family members?

Following are the benefits admissible to family members under the ESI Scheme

- (i) Family members are also entitled to full medical care as and when needed.
- (ii) The Family members are also entitled to artificial limbs, artificial appliances as a part of medical treatment.
- (iii) The medical benefit is also admissible to the family during the period the insured person is in receipt of unemployment allowance. In case he/she dies during the period, his/her family continues to receive the medical benefit till receipt of unemployment allowance.
- (iv) In case of the death of the insured employee due to employment injury, the widow, widowed mother and children are entitled to Dependants' benefit.
- (v) The Funeral Expenses up to ₹ 10000/- are defrayed to any family member or person who actually incurs the above expenditure on funeral.

An Insured person who superannuates or retires under a voluntary Retirement Scheme or takes premature retirement, after being an insured person for not less than 5 years, shall be eligible to receive medical benefit for himself and his spouse subject to production of proof thereof, and payment of a nominal contribution of rupees one hundred and twenty for one year. In case the insured person expires his spouse shall continue to receive medical benefit under Rule 61 on payment of contribution as mentioned above.

Varishta Mediciclaim Policy (Senior Citizens Health Insurance Scheme):

Varishta Mediciclaim policy by government is made specifically for the senior citizens between the age of 60 and 80 years to meet the requirements of a senior citizen health insurance scheme. The policy period is only of a year but the renewal of the plan can be made up to the age of 90 years. One lakh of sum assured is provided for hospitalisation and up to 2 lakhs for critical illnesses coverage.

Other features of the plan are mentioned below:

- Cost of medicines, drugs, blood, oxygen, diagnosis charges etc. is covered by half of the sum assured.
- Upto 1000 rupees for emergency ambulance charges.
- Treatment of critical medical problems like benign prostate hyperplasia, cataract and organ transplant etc. are covered but only up to a pre-specified amount.
- A fourth of the total sum assured is for fees of surgeons, consultants, specialists, medical practitioners etc.
- Coverage for illnesses like cancer, multiple sclerosis, stroke etc. is provided even without hospitalization.
- No waiting period for pre-existing conditions like Diabetes and hypertension, if an additional premium is paid.
- Post hospitalization charges are covered for the age up to 60 years.
- Under section 80D of Income Tax Act, the premiums of up to ₹15,000 are allowed as deductions.

Central Government Employees and Pensioners Health Insurance Scheme:

This scheme is especially for the employees of central government, both newly recruited and the retired one. The sum cover provided under this plan is of 5 lakhs with a minimal premium.

Pre-existing conditions, pre and post hospitalization and maternity benefits are the coverage provided.

Besides all the traditional benefits, this plan has some of its exclusive benefits that are not available with a lot of plans in the market like zero initial waiting period for coverage initialization and the pre-existing conditions and even for the major critical illnesses like cataract, diabetes, hernia etc. while most plans carry a waiting period of up to 4 years for the pre-existing conditions and 30 days for the inception of coverage of the insured under the plan.

The term of coverage is for the lifetime until the survival of the insured.

Following are other benefits of the plan:

- Reimbursement for the cost of medical apparatus like artificial parts, hearing aids etc.
- Free Specialist and medical practitioner visits at government hospitals.
- OPD treatment and medicinal cost
- Medication and consultation at Siddha, Ayurveda, Unani systems of medicines and homeopathy.
- Reimbursement for emergency treatment both at government and private hospitals.
- Cashless treatment for the insured and the beneficiaries at diagnostic centers and certain authorized hospitals.
- Additional members can be covered under the plan if a fixed additional is paid per member.
- Policy period is for lifetime even for the beneficiaries.

Prime Minister's Aayushman Bharath Health Scheme:

Prime Minister Narendra Modi rolled out the Pradhan Mantri Jan Arogya Yojana-Ayushman Bharat Health Scheme in September 2018. Termed as a “game-changer initiative to serve the poor”, the Scheme is also termed as ‘Modicare’ aimed at providing health care to the deprived.

“PMJAY-Ayushman Bharat is the biggest government-sponsored healthcare scheme in the world. The number of beneficiaries is almost equal to the population of Canada, Mexico and the US taken together.

The magnitude of the scheme could be gauged from the fact that more than 1,300 ailments are covered under it, including heart diseases, kidney and liver disorders and diabetes.

No one needs to register for the initiative. A health card would be provided to the beneficiaries for availing of the benefits. A toll-free number will be made available to the people for finding out more about the scheme.

2,500 modern hospitals would come up in tier-II and tier-III cities and would generate employment opportunities. A total of 13,000 hospitals have become a part of the Ayushman Bharat scheme.

Billed as the world's largest government healthcare programme, it will be funded with 60 per cent contribution coming from the Centre and remaining from the states.

As of September 2018, 15,686 applications for hospital empanelment have been received by the Government and over 8,735 hospitals, both public and private, have already been empanelled for the scheme, and as many as 31 states and union territories have signed MoUs with the Centre and will implement the programme. Telangana, Odisha, Delhi, Kerala and Punjab are not among the states which have opted for the scheme.

According to Health ministry officials, the 71st round of National Sample Survey Organisation (NSSO) revealed that 85.90% of rural households and 82% of urban households have no access to health care insurance. More than 24% of the households in rural India and 18% population in urban area have met their health care expenses through some sort of borrowing.

Who are the beneficiaries?

The scheme will target poor, deprived rural families and identified occupational category of urban workers' families, 8.03 crore in rural and 2.33 crore in urban areas, as per the latest Socio-Economic Caste Census (SECC) data. It will cover around 50 crore people and there is no cap on family size and age in the scheme ensuring that nobody is left out.

Who contributes to the Scheme?

60% of the contribution comes from the Centre and remaining from States. The burden on the Centre is likely to be around ₹ 3,500 Crores in the fiscal year 2018-19 on account Centre's contribution to this Scheme.

Health Insurance Coverage :

₹ 5 lakh cover per year is provided under this Scheme. 1,354 ailments are covered. Treatment for coronary bypass, knee replacements and stenting, among others, would be provided at 15 to 20% cheaper rates than Central Government Health Schemes

Where can the treatment be availed

Benefits can be availed in Government hospitals as well as listed Private hospitals.

Who can avail and how?

The entitlement is decided on the basis of deprivation criteria in the SECC database. The beneficiaries are identified based on deprivation categories (D1, D2, D3, D4, D5 and D7). For urban areas, 11 occupational criteria will determine entitlement. Rashtriya Swasthya Bima Yojana beneficiaries in States where it is active, are also included. There is no cap on family size and age in the Scheme. Aadhaar card is not mandatory. Even election identity card or ration card can be used to establish identity. NHPS will subsume the ongoing centrally sponsored schemes such as Rashtriya Swasthya Bima Yojana (RSBY) and the Senior Citizen Health Insurance Scheme.

Cashless Hospitalisation

In the case of hospitalisation, members of the beneficiary families do not need to pay anything under the Scheme, provided one goes to a government or an empanelled private hospital. Each empanelled hospital will have an Ayushman Mitra help desk where a prospective beneficiary can check documents to verify the eligibility and enrolment to the Scheme. Other points to note:

- Pre-existing diseases covered from Day 1 of enrolment of the scheme.
- Portable across India at all empanelled healthcare Providers.
- Fixed Transportation Allowance payable from place of residence to hospital.
- AYUSH (Alternative Medicine Systems other than Allopathic) covered.

Privately Administered Health Insurance Schemes:

Besides there are many privately administered Health insurance schemes administered by General Insurance companies or Stand-alone Health insurance companies which are regulated by IRDAI. Besides Critical illness covers are provided by Life insurance companies.

Any individual can purchase health insurance cover directly by purchasing a Health insurance policy from any of the above insurance companies.

Employer Sponsored Health Insurance Schemes :

Besides the above, many employers provide health insurance cover to their employees under a Group Mediclaim Policy purchased from any of the insurance companies under which premiums are either paid only by employer or only by employee or partly by employer and partly by employee. This would depend on Company's HR Policy on providing employee benefits.

Health Insurance Regulations Applicable to Insurance Companies :

IRDAI (Health Insurance) Regulations 2016 provides the governing framework for health insurance policies. Let us study the regulatory framework applicable to Health insurance policies in the following paragraphs.

Definition of Health Insurance:

It is important to first know the components of Health insurance policies. Section 2(6C) of the Insurance Act, 1938, defines Health insurance business to include Policies providing the following benefits:

- (a) Sickness benefits, medical benefits, hospital benefits, surgical benefits (both in-patient as well as outpatient benefits).
- (b) Travel insurance.
- (c) Personal accident cover.

Two types of medical insurance policies:

- (a) Policies providing indemnity benefits – under indemnity contracts only the actual amount of loss is reimbursed
- (b) Policies providing fixed medical benefits.

As per the general principles of insurance contracts, while a general insurance is a contract of indemnity, a Life insurance is not a contract of indemnity. Therefore, only general insurance companies and Standalone health insurance companies can provide indemnity-based health insurance covers.

Life insurance companies can provide fixed health insurance benefit cover, under which a defined certain amount (Sum insured) can be paid upon hospitalisation without considering into the actual amount spent by the Policyholder. For example, Critical illness covers are offered by Life insurance companies fall under this category. These are fixed amounts paid by the Life insurance companies upon the Life assured contracting any of the illnesses covered under the Policy contract. Life insurance companies cannot offer Travel insurance or Personal accident cover. However, Accident death benefit can be provided as a rider by Life insurance companies, i.e., upon death due to accident, an additional sum assured is paid to the Nominee. Under Personal accident cover by General insurance companies, upon accident any cost incurred by the Policyholder including stoppage of income, disablement benefits etc. are offered.

Note: A General insurance company can insure anything from pin to plane, other than human life, including health insurance products, whereas a Standalone health insurance company is a Specialised General insurance company allowed to sell only Health insurance products.

Policy Term (coverage period) of Health Insurance Policies:

- (a) Individual Policies – under individual health insurance policies, General insurance companies and Standalone health insurance companies can provide insurance cover for a minimum period of 1 year and maximum period of 3 years. However, Life insurance companies can provide only for a minimum Policy term of 5 years. This is because Life insurance contracts, by nature, are long-term contracts
- (b) Premium guarantee – No premium can be changed during the Policy period. However, for a Life insurer, premiums cannot be changed for a minimum period of 3 years
- (c) Group Policies – these are one-year renewable Policies, except for Group Health policies under lender/borrower groups (Group credit linked products), where the term can be extended up to 5 years. A minimum group size of 7 has been prescribed for issuing the Group policies.
- (d) Personal accident and Travel cover – may be offered for a term of less than 1 year as well.

Structure and Type of Re-insurance

7.4

Structure and Type of Re-insurance:

General Insurance Corporation of India (GIC Re): The entire general insurance business in India was nationalised by General Insurance Business (Nationalisation) Act, 1972 (GIBNA).

The Government of India (GOI), through Nationalisation took over the shares of 55 Indian insurance companies and the undertakings of 52 insurers carrying on general insurance business.

General Insurance Corporation of India (GIC) was formed in pursuance of Section 9(1) of GIBNA.

It was incorporated on 22 November 1972 under the Companies Act, 1956 as a private company limited by shares.

GIC was formed for the purpose of superintending, controlling and carrying on the business of general insurance.

As soon as GIC was formed, GOI transferred all the shares it held of the general insurance companies to GIC.

Simultaneously, the nationalised undertakings were transferred to Indian insurance companies.

After a process of mergers among Indian insurance companies, four companies were left as fully owned subsidiary companies of GIC

- National Insurance Company Limited.
- The New India Assurance Company Limited.
- The Oriental Insurance Company Limited.
- United India Insurance Company Limited.

The next landmark happened on 19th April 2000, when the Insurance Regulatory and Development Authority Act, 1999 (IRDA) came into force.

This Act also introduced amendment to GIBNA and the Insurance Act, 1938. An amendment to GIBNA removed the exclusive privilege of GIC and its subsidiaries carrying on general insurance in India.

In November 2000, GIC was re-notified as the Indian Reinsurer and through administrative instruction, its supervisory role over the four subsidiaries was ended.

With the General Insurance Business (Nationalisation) Amendment Act 2002 (40 of 2002) coming into force from March 21, 2003; GIC ceased to be a holding company of its subsidiaries.

The ownership of the four erstwhile subsidiary companies and also of the General Insurance Corporation of India was vested with Government of India.

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As soon as GIC was formed, GOI transferred all the shares it held of the general insurance companies to GIC.

Domestic :

As a sole reinsurer in the domestic reinsurance market, GIC Re provides reinsurance to the direct general insurance companies in the Indian market. GIC Re receives statutory cession of 5 % on each and every policy subject to certain limits. It leads many of domestic companies' treaty programmes and facultative placements. GIC Re's capacity for each class of business on Treaty and Facultative basis for domestic business is given in the following table:

Class	Capacity
Property	INR 15000 million. Any one risk
Energy	USD 125 million per risk
Marine	Hull - \$ 125 million. any one vessel
	Cargo \$ 125 million. Any one policy/sending
Engineering	INR 15000 million. Sum Insured
Miscellaneous	INR 2500 million. Sum Insured
Liability	INR 2500 million per occurrence
Spares	INR 250 million.
Health	INR 2500 million.
Agriculture / Weather Insurance (Domestic)	INR 4,000 crores on Sum Insured/PML basis.
Motor & Workmen Compensation	INR 35 Crores (Facultative)
	INR 100 Crores (Treaty)

Capacity indicated above is per risk absolute maximum.

Aviation:

DOMESTIC	HULL	LIABILITY
AIRLINES	US\$ 30 Mln	US\$ 150 Mln
GENERAL AVIATION	US\$ 25 Mln	US\$ 175 Mln
TREATY- Proportional	US\$ 8 Mln Any One Treaty	
TREATY- Non-Proportional	US\$ 7.5 Mln Any One Programme	

International:

As GIC Re spreads its wings to emerge as effective reinsurance solutions partner for the Afro-Asian region and has

started leading the reinsurance programmes of several insurance companies in SAARC countries, South East Asia, Middle East and Africa. To offer its international clientele an easy accessibility, efficient service and tailor-made reinsurance solutions; GIC has opened liaison/ representative/ branch / subsidiary offices in UK, Russia, UAE, Malaysia, South Africa and Brazil. GIC also has an offshore branch in GIFT City, Gujarat. GIC provides following capacities for Treaty and Facultative business on risk emanating from the international market based on merits of the busine.

Capacity Offered :

GIC Re offers the following Underwriting Capacities to its international clientele.

Property:

Type	On PML Basis	Sum Insured
Facultative	US \$ 20 million	US \$ 50 million
Treaty	US \$ 4 million	US \$ 10 million

Marine Hull, Cargo & Offshore Energy (Per Risk) :

Type	Cargo	Hull	Energy
Facultative	\$ 12.5 million	\$ 12.5 million	\$ 100 million
Treaty	\$ 12.5 million	\$ 12.5 million	\$ 10 million

Aviation:

INTERNATIONAL	HULL	LIABILITY
AIRLINES	US\$ 15 Mln	US\$ 125 Mln
GENERAL AVIATION Int (other than SAARC)	US\$ 7.5 Mln	US\$ 50 Mln
GENERAL AVIATION SAARC	US\$ 10 Mln	US\$ 150 Mln
TREATY- Proportional	US\$ 8 Mln Any One Treaty	
TREATY- Non-Proportional	US\$ 7.5 Mln Any One Programme	

Liability:

Type	Limit of Liability basis (Claims made basis covers)
Facultative	US \$ 10 million
Treaty Proportional	US \$ 6 million
Non-Proportional	US \$ 8 million

Miscellaneous:

Type	Miscellaneous	S I Basis
Facultative	US \$ 20 million	US \$ 50 million
Treaty	US \$ 4 million	US \$ 10 million

Motor (SI):

Type	Motor
Facultative	US \$ 5 million
Treaty	US \$ 10 million

Life:

Type	Capacity Offered
Proportional	250 million/ US \$ 5 million per person
Non-proportional	750 million/ US \$ 15 million per treaty

Agriculture / Weather Insurance:

Type	Capacity Offered
Agriculture / Weather Insurance (Foreign)	USD 50 mln on Sum Insured basis and USD 25 mln on PML basis

Reinsurance :

Reinsurance is a risk transfer mechanism whereunder an insurance company passes on the risk on an insurance policy to another entity called Reinsurer for a consideration under a Reinsurance treaty (contract).

Under reinsurance one direct insurance company (also called Ceding company) transfers (cedes) part of the risk to another insurance company (called Reinsurer). This helps in reducing the liability of the direct insurer to a large extent. If there is no reinsurance, it could result in a dent in the financial position of an insurance company, especially when a natural calamity happens.

Some of the global reinsurance companies who have opened reinsurance offices in India include Swiss Re., Munich Re., RGA, Hannover Re. etc. The Indian Reinsurer is GIC Re. (General Insurance Corporation of India).

Reinsurers have their teams which comprise of competent technical professionals who are experts in Actuarial, Claims, Underwriting etc.

Reinsurers take a proportion of the premium paid by the Policyholder and promises to pay the proportionate amount of any claims insured under the Policy.

Need for Reinsurance :

The actuary of the life insurance company prices the products and makes certain vital mortality assumptions, based on the medico-actuarial studies, mortality statistics, extensive research and his own expertise in this field. Generally, it is assumed that the actual mortality experience is in line with the mortality assumptions made by

the actuaries. However, if there are variations and the actual experience is not favourable in terms of mortality experience, this could result in losses and thereby indemnifies the direct life insurance company from financial losses. This situation can be taken care of when the reinsurance arrangements are in place and the risk/liability is shared by the reinsurer in exchange for a proportionate pre-decided premium. Thus, reinsurance can be said to be “sharing or spreading of risks”. The reinsurance arrangements minimise the financial impact of death claims on a direct insurer. The quantum of liability which a direct insurance company (ceding company) takes on is known as the retention limit.

Types of Reinsurance Treaties:

There are two basic methods of reinsurance:

1. **Facultative Reinsurance**, which is negotiated separately for each insurance policy that is reinsured. Facultative reinsurance is normally purchased by ceding companies for individual risks not covered, or insufficiently covered, by their reinsurance treaties, for amounts in excess of the monetary limits of their reinsurance treaties and for unusual risks. Underwriting expenses, and in particular personnel costs, are higher for such business because each risk is individually underwritten and administered. However, as they can separately evaluate each risk reinsured, the reinsurer’s underwriter can price the contract more accurately to reflect the risks involved. Ultimately, a facultative certificate is issued by the reinsurance company to the ceding company reinsuring that one policy.
2. **Treaty Reinsurance** means that the ceding company and the reinsurer negotiate and execute a reinsurance contract under which the reinsurer covers the specified share of all the insurance policies issued by the ceding company which come within the scope of that contract. The reinsurance contract may oblige the reinsurer to accept reinsurance of all contracts within the scope (known as “obligatory” reinsurance), or it may allow the insurer to choose which risks it wants to cede, with the reinsurer obliged to accept such risks (known as “facultative-obligatory” or “facoblig” reinsurance).

Types of Treaty Reinsurance

1. Quota Share
2. Surplus
3. Excess of Loss
4. Excess of Loss Ratio (Stop-Loss) and
5. Pools

1. Quota Share Treaty Reinsurance

This type of treaty requires the direct insurer to cede a predetermined proportion of all its business accepted in a certain class to the reinsurer(s), and the reinsurer(s) also agrees to accept that proportion in return for a corresponding proportion of the premium.

2. Surplus Treaty Reinsurance

The important feature here is, this that the direct insurer agrees to reinsure only the surplus amount, after its retention, and the reinsurers agree to accept such cessions, usually up to a predetermined upper limit. Surplus treaties are usually arranged in lines, each line being equal to insurer’s own retention.

This means that the insurer can automatically make a gross acceptance of the risk to the extent of his own retention, plus, the amount of retention multiplied by the number of lines for which treaty has been made.

3. Excess of Loss Treaty Reinsurance

The approach of the reinsurance arrangement is quite different here from those methods already discussed. Under this system, unlike facultative, quota or surplus, the sum insured does not form any basis and it is not expressed in terms of proportion or percentage of the sum insured. Here, the insurer first decides as to how much amount of loss he can bear on each and every loss under a particular class of business.

The arrangement is such that if a loss exceeds this predetermined amount, then only reinsurers will bear the balance amount of loss. Nothing is payable by the reinsurers if the amount of loss falls below this selected amount.

There may usually be an upper limit of liability of the reinsurers beyond which they will not pay.

4. Excess of Loss Ratio Treaty Reinsurance

This type of arrangement is also known as STOP LOSS reinsurance and is a bit different from the Excess of Loss arrangement, even though both basically base on loss rather than sum-insured.

Here, a relationship is usually drawn in between the gross premium and the gross claim over a year in a particular class of business. The ceding company decides a gross loss ratio up to which it can sustain. The arrangement with the reinsurers is such that if at the year-end it is found that the total of all losses within the class has exceeded the predetermined loss ratio then the reinsurers will pay the balance loss so as to keep the loss ratio of the ceding company within the 'predetermined ratio. The treaty may contain an upper limit also.

5. Pools Treaty Reinsurance

Pools are basically treaties, either quota share or surplus, in the sense that under these arrangements' various member countries or member companies join their hands together beforehand for sharing each other's premium as well as claim. These pools usually operate in respect of especially hazardous classes of business or where the market as a whole is weak to absorb the risk. In such circumstances, such pools providing mutual support become very useful.

6. Catastrophe Reinsurance

This is also referred to as "Cat cover" and protects the insurance companies against catastrophes of large mortality claims coming at a single point of time.

For example, the 2004 Indian Ocean earthquake and Tsunami claimed the lives of more than 10,000 people mostly in Andaman & Nicobar Islands and Tamil Nadu. Also, the Kerala Floods in 2018 claimed the lives of over 400 people and damaged houses and cars of many people.

Under these circumstances, Insurance companies may face huge number of claims at a single point of time, which could create a dent in their Balance Sheet and may call for additional capital from shareholders of insurance companies to maintain their minimum solvency (Net worth) as per regulatory requirements. Thus, Catastrophe reinsurance protects the company against the short-term earnings impact of incurring multiple large claims at one time.

Advantages of reinsurance arrangements

The following are the advantages of the reinsurance arrangements:

- Reinsurance is a risk transfer mechanism and limits the financial losses of insurance companies
- Reinsurers have a pool of talent and knowledge which help the direct insurance companies in knowledge upgradation and bringing in globally accepted and recognised best practices to their area of work, help in designing innovative products, which can help in revenue generation to the ceding insurers
- Insurance companies experience sudden spikes in volumes in certain times in a year and the reinsurers

extend help in underwriting of cases received by the direct insurer through their registered offices

- Reinsurance treaty can be structure so that that the amount of reserves which must necessarily be held by a company can be reduced – which may be useful in coping with new business strain and other capital constraints
- Company's overall performance can be measured in many ways including return on capital – if reinsurance can be used to reduce the capital required without impacting significantly on profits, the return on capital can be improved
- Tracking of global insurance applications by the same person – for example, a person who had applied earlier for insurance in US and was declined, applies now in India (for a high sum assured), such cases can be tracked by reinsurers due to their presence in multiple countries.

Reinsurance treaty (Reinsurance Contracts) :

Reinsurance treaty denotes the legal agreement between the Ceding insurance company and the Reinsurance company signed by both the parties. It contains the obligations and responsibilities of both the parties, viz., the direct insurance company and the reinsurance company. Each treaty may be broken up into smaller units – into a number of provisions or sections, each pertaining to a separate point. The treaties may vary from each other and depend upon the type of the reinsurance arrangement and the purpose of the treaty. Reinsurance treaties also contain various points that are not directly concerned to underwriting.

Reinsurance treaties generally cover the following points:

- Provisions and conditions with reference to different types of reinsurance, e.g., Automatic, Facultative, retention limits etc.)
- Liabilities of reinsurers in cases of claims
- Details of the points from where the liability begins with reference to various types of Treaties
- Points pertaining to the Policy terminations, changes or increase in risk classification, reinstatements etc.
- Additional policy benefits, if any, like accidental death benefits and waiver of premium
- Claims related matters, viz., contestable claims, copies of proofs required for claims settlement etc.
- Errors & Omissions clause which details out the extent of errors that are of un-intentional and nonrecurring in nature that will be accepted by the reinsurer and are very explicitly drafted
- Disputes resolution methodology, Arbitration methods
- Forms, manuals, guidelines, underwriting philosophy with its rules, procedures and processes etc.

Underwriting audit by Reinsurers:

Audit of underwriting function by the reinsurers is an important activity in the life cycle of an insurance company and cannot be undermined. The reinsurers' audit of the underwriting department of an insurance company covers topics ranging from adherence of underwriting guidelines, to processes and procedures, to risk areas, the adherence of the underwriting philosophy, the risk assessment aspects etc. The procedures with reference to adherence of calling for additional requirements in the risk assessment process and managing risks within the agreed norms is also an important feature of the underwriting audit. The interface with the client through different modes of communication is also reviewed in greater detail during the course of the audit.

Life Insurance

7.5

Year 1818 saw the advent of life insurance business in India with the establishment of the Oriental Life Insurance Company in Calcutta. This Company however failed in 1834. In 1829, the Madras Equitable had begun transacting life insurance business in the Madras Presidency. 1870 saw the enactment of the British Insurance Act and in the last three decades of the nineteenth century, the Bombay Mutual (1871), Oriental (1874) and Empire of India (1897) were started in the Bombay Presidency. This era, however, was dominated by foreign insurance offices which did good business in India, namely Albert Life Assurance, Royal Insurance, Liverpool and London Globe Insurance and the Indian offices were up for hard competition from the foreign companies.

In 1914, the Government of India started publishing returns of Insurance Companies in India. The Indian Life Assurance Companies Act, 1912 was the first statutory measure to regulate life business. In 1928, the Indian Insurance Companies Act was enacted to enable the Government to collect statistical information about both life and non-life business transacted in India by Indian and foreign insurers including provident insurance societies. In 1938, with a view to protecting the interest of the Insurance public, the earlier legislation was consolidated and amended by the Insurance Act, 1938 with comprehensive provisions for effective control over the activities of insurers.

The Insurance Amendment Act of 1950 Abolished Principal Agencies. However, there were a large number of insurance companies and the level of competition was high. There were also allegations of unfair trade practices. The Government of India, therefore, decided to nationalize insurance business.

An Ordinance was issued on 19th January 1956 nationalising the Life Insurance sector and Life Insurance Corporation came into existence in the same year. The LIC absorbed 154 Indian, 16 non-Indian insurers as also 75 provident societies, 245 Indian and foreign insurers in all. The LIC had monopoly till the late 90s when the Insurance sector was reopened to the private sector.

Indian Insurance in the Global Scenario :

In life insurance business, India is ranked tenth in the world. India's share in global life insurance market was 2.73 per cent during 2019. Compared to the previous year, the life insurance premium in India increased by 9.63 per cent whereas global life insurance premium increased by 1.18 per cent.

In non-life insurance business, India is ranked 15 in the world. India's share in global non-life insurance market was 0.79 per cent during 2019. Compared to the previous year, the non-life insurance premium in India increased by 7.98 per cent whereas global non-life insurance premium increased by 3.35 per cent.

Globally, the share of life insurance business in total premium was 46.34 per cent and the share of non-life insurance premium was 53.66 per cent during 2019. However, the share of life insurance business for India was high at 74.94 per cent while the share of non-life insurance business was at 25.06 percent.

Insurance Penetration and Density :

Insurance penetration and density are two metrics, among others, often used to assess the level of development of the insurance sector in a country. While insurance penetration is measured as the percentage of insurance premiums to GDP, insurance density is calculated as the ratio of premiums to population (per capita premium).

Insurance penetration which was 2.71 percent in 2001 has steadily increased to 3.76 percent in 2019 (Life 2.82 percent and non-Life 0.94 percent). Insurance penetration in some of the emerging economies in Asia, i.e., Malaysia, Thailand and China during the same year were 4.72, 4.99 and 4.30 percent respectively. The insurance density in India which was USD 11.5 in 2001, reached to USD 78 in 2019 (Life- USD 58 and Non-Life - USD 20). The comparative figures for Malaysia, Thailand and China during the same period were USD 536, USD 389 and USD 430 respectively. Globally insurance penetration and density were 3.35 percent and USD 379 for the life segment and 3.88 percent and USD 439 for the non-life segment respectively in 2019.

Insurance Premium :

During the fiscal 2019-20, the gross direct premium of non-Life insurers was ₹1,88,916 crores as against ₹1,69,448 crores, in the previous financial year 2018-19 registering a growth of 11.49 percent. Motor and health segments primarily helped the industry to report this growth.

During the fiscal 2019-20, Life insurance industry recorded a premium income of ₹5,72,910 as against ₹5,08,132 crores in the previous financial year, registering a growth of 12.75 percent. While renewal premium accounted for 54.75 percent of the total premium received by the life insurers, new business contributed the remaining 45.25 percent.

7.5.1 Principles and Characteristics:

The commercial contracts are normally subject to the principle of “Caveat Emptor” i.e., let the buyer beware. In most of these contracts each party to the contract can examine the item or services which is the subject matter of contract. For e.g., If customer go to the market to buy vegetables, then customer have to be careful about quality while buying the vegetables and after buying cannot question the vendor.

Each party believes in the statement of the other party. So long as there is no attempt to mislead & the answers are given truthfully, the question of avoiding the contract would not arise.

In the Insurance contract the product sold is intangible. It cannot be seen or felt. Most of the facts relating to health, habits, personal history and family history are known to one party only, the proposer. The insurer can know most of these facts only if the proposer decides to disclose these facts. It is true that the underwriter can have the assistance of medical report for life Insurance proposal. Sometimes, these aspects are not detected by the medical examination. e.g., a person suffering from high B.P. or diabetes can manage to hide these facts from the examining doctor. The history of past serious sickness, operations and injuries can be suppressed. These aspects may affect the life expectancy of the proposer. Hence, these constitute material information from the underwriter's point of view. Non-disclosure of such facts would put the insurer as well as the community of policyholders at a disadvantage.

It is for these reasons that the law imposes a greater duty on the parties to an insurance contract than in case of other commercial contracts. This duty is one of utmost good faith (uberrima fides). It is the duty of the assured to make a full disclosure to the underwriter without being asked. In a contract of Insurance, there is an implied condition that each party must disclose every material fact known to him. This type of contract is called uberrima fides i.e., contract of utmost good faith.

Hence utmost good faith can be defined as a positive duty to disclose accurately & fully all facts material to the risk being proposed whether requested or not.

The material fact is the material, which would influence the judgement of a prudent insurer in fixing the premium or determining whether he will cover the risk.

Therefore, facts regarding age, height, weight, previous medical history, smoking/ drinking habits, operations, details of earlier Insurances and hazardous occupation must be disclosed.

There are certain circumstances, which need not be disclosed e.g.:

Principles of Life Insurance

- a) Facts which everyone is supposed to know in general.
- b) Facts of common knowledge.
- c) Facts which lessen the risk.
- d) Facts which could be reasonably discovered by reference to previous policies records of which are available with the insurer.

In Insurance contract, the level of good faith above the level of what is in the usual commercial transaction is required. Therefore, Insurance contracts are based on the principles of warranty, representation and concealment. We must understand the nature of warranty, representation and concealment.

Warranty :

A warranty in Insurance is a statement or condition which is incorporated in the contract relating to risk, which the applicant presents as true & upon which it is presumed that the insurer relied in issuing the contract.

In fact, Marine Insurance developed the doctrine of warranty because the marine underwriter was rarely called upon or got a chance to inspect the ship as it might be lying thousands of miles away at ports or in voyage. Therefore, he had to depend entirely upon the word of the person seeking the Insurance. Hence, all information in the application for the Insurance was warranted to be absolutely exact and true. If it turned out to be untrue, the Insurance was voidable whether the misstatement was intentional or unintentional, material to the loss or immaterial.

Insurable Interest:

The Insurance Act 1938 doesn't define the insurable interest but it has been defined as follows by Mac-Gillivray "Where the assured is so situated that the happening of the event on which the Insurance money is to become payable would as a proximity cause, involve the assured in the loss or diminution of any right recognised by law or in any legal liability there is an insurable interest in the happening of that event to the extent of the possible loss or liability."

The object of Insurance should be lawful for this purpose, the person proposing for Insurance must have interest in the continued life of the insured & would suffer pecuniary loss if the insured dies. If there is no insurable interest, the contract becomes wagering (gambling) contract. All wagering contracts are illegal & therefore null & void.

Own Life Policy :

So long as the Insurance is on one's own life, the "Insurance Interest" presents no difficulty. A person has insurable interest in his own life to an unlimited extent. The absence of a limit in this case is reasonable. When a person insures his life, he obtains protection against loss to his estate; for in the event of his untimely death the estate would not benefit by the future accumulation he hopes to make during the normal span of life. It is not easy to compute with any degree of certainty what the future earnings of a person would be. Hence no limit may be fixed in respect of life Insurance he may effect.

Where, however, insurer rejects a proposal for an amount of assurance, which is disproportionate to the means of the proposer, it is not normally for lack of Insurable interest but on considerations of "moral hazard". Indeed, it may also be presumed in a case where a person proposes for a policy for a large amount, which he may not be able to maintain having regard to his income, that it will be financed by some other person and that there is no insurable interest.

Insurance on the Life of Spouse :

As a wife is normally supported by her husband, she can validly effect an insurance on her life for adequate amount. The service and help rendered by the wife used to be thought of as the basis of insurable interest which supports any policy which a man takes on the life of his wife. In *Griffiths v. Elemming* the Court of Appeal in England stated that it was difficult to uphold such interest on the basis of pecuniary interest but thought that such interest could be presumed on broader grounds.

Parent and Child :

Following the practice in U.K. in India also a parent is not considered to have insurable interest in the life of the child. The same is the case with a child in respect of his parent's life. Whether this position requires to be reviewed now appears to be engaging the attention of people here.

A Hindu is under a legal obligation to maintain his parents. Even as per traditional law Sec.20 of the Hindu Adoption and Maintenance Act has given statutory form to the legal obligation. The parents have, therefore, a right to maintenance subject to their being aged or infirm. An order for maintenance of parents may also be passed under Sec. 125 of the Code of Criminal Procedure, 1973. It may be stated, therefore, that a parent has pecuniary interest in the life of the child, and an assurance effected on that basis cannot be hit by Sec.30 of the Contract Act as a wagering contract.

However, it may be noted that the pecuniary interest is not a present interest unless the parent is unable to maintain himself or herself at the time when the Insurance is effected. It may therefore, be argued that a parent cannot have insurable interest in the life of the child until the right to maintenance arises; but when a person is not able to maintain oneself how can he be expected to have the means to insure the life of his children?

As a matter of fact, in India, even today a child is a potential breadwinner for the parents in their old age. The present affluent circumstances of a parent do not alter that situation. Under the traditional law a right to maintenance could be claimed only against the sons; the statute has now extended the obligation to the daughters as well.

Having regard to the social and economic set up of the people in the country a review of the question seems to be appropriate.

On the life of other relations :

In the case of other relations, insurable interest cannot be presumed from the mere existence of their relationship. Moral obligations or duties are not sufficient to sustain an insurable interest.

In every other case, the insurable interest must be a pecuniary interest and must be founded on a right or obligation capable of being enforced by Courts of law.

The following are illustrations of such cases of insurable interest :

a) Employer – Employee:

An employer has insurable interest in the life of his employee, and the employee in the life of the employer;

An employer can create insurable interest in the lives of his employees by undertaking to provide monetary benefit to the family or estate of the employees in the event of death. Group Insurances effected by companies on the lives of their employees are on the basis of such insurable interest.

b) Creditor – Debtor:

A creditor has insurable interest in the life of his debtor upto the amount of the debt;

This is not a satisfactory basis; for in the event of death of the debtor after the debt has been repaid, the creditor would still be entitled to the policy moneys and thus can be in a position to gain by the death of the debtor once the loan is repaid. The better arrangement would be for the debtor to take out a policy for the required amount and mortgage the policy to the creditor. The creditor then cannot take benefits under the policy in excess of

his dues.

c) Partner:

A partner has insurable interest in the life of his co-partner to the extent of the capital to be brought in by the latter.

d) Surety and principal debtor-Co-surety:

A surety has insurable interest in the life of his co-surety to the extent of the proportion of his debt and also in the life of his principal debtor.

Effect on Contract when Insurable interest is not present:

Where, therefore, the proposal is on the life of another, unless the proposer has insurable interest in the life to be assured, the contract shall be void. Lack of insurable interest is a defence, which the insurer may plead in resisting a claim. There may be also cases where Insurance on one's own life is surreptitiously financed and held by another for his benefit, which if detected by the insurer, may be declared void.

As a life Insurance contract is not one of indemnity, the existence of insurable interest and the amount thereof will have to be considered at the time of effecting the contract since lack of such interest would render the contract void. If insurable interest existed at the inception of the policy, the contract would be enforceable though such interest might cease later.

7.5.2 Types of Life Insurance Products:

Choosing from the different types of life insurance in India is a crucial financial decision, as it helps to protect from life's uncertainties. Still, most of the public may not be fully aware of the types of life insurance policy in India and how they affect financial health. The types of life insurance and their benefits in detail below.

Term Insurance Product :

These are pure life insurance products where the benefit (lump sum) is payable only on the happening of death during the term of the life insurance policy. These policies cover the risk of dying early and provide a lump sum to the Nominee (usually a Family member) to take care of their future needs.

In case the Life assured survives the Term of the Policy, nothing is payable. However, there are options available for return of premiums paid in case the Life assured survives the term of the Policy. These Policies are taken for a fixed term.

Premiums under Term insurance products are relatively the lowest as they do not have any savings component. This is the cheapest of all the Life insurance policies. Premium depends upon the age of the life insured. Higher the age, higher the premium, as the risk taken by the life insurance company increases with age.

Term insurance policies are still not popular as the level of insurance awareness in India is very low. Generally, Policyholders expect a benefit payable during their lifetime. Since Term insurance products do not provide any benefit during survival of the Life assured (except for Return of premiums upon survival till the end of the term of the Policy), these products are still unpopular

Whole Life Insurance Products :

As the name suggests, whole life insurance products cover the risk of dying early till the person's death, as compared to a Term where the risk coverage is available only till the expiry of the term mentioned in the Policy, say 5 years, 10 years, 15 years etc., as chosen by the Policyholder.

Essentially, Whole Life insurance products are extensions of Term insurance products and also provide benefits (usually lump sum) payable only on the death of the life assured. But the coverage is available throughout the life. However, generally across various life insurance companies, where the life assured attains the age of 85, the Sum

assured is paid to the Policyholder if he/she survives age 85. In case of Participating products, bonuses are also paid.

For the reasons mentioned under Term insurance products, even Whole Life insurance products are also not popular.

Endowment Products :

Under Endowment products, the benefits (Sum assured) are payable either upon death during the term of the Policy or if the Life assured survives the maturity of the Policy, upon maturity of the policy, whichever is earlier. Therefore, at the end of the Policy term, in case the Life assured survives, the Policyholder gets a lump sum benefit. In case of Participating products, the Bonuses declared are also paid upon the death or maturity (reversionary bonuses).

Money Back Products :

These are extensions of Endowment products where under, the Policyholder is entitled to periodic pay-outs, if he survives specified terms during the tenure of the Policy. For example, if the Life assured survives 10 years from the date of taking the Policy, 25% of the Sum Assured shall be paid, 50% at the end of 15 years and the balance on Maturity. Under these products, the Sum Assured, instead of being paid only upon survival on maturity, is accelerated and paid in instalments. However, in the event of death anytime during the term of the Policy, full Sum Assured is paid, irrespective of the instalments that may have been paid already.

Annuity Products:

Annuities are periodic (usually monthly) pay-outs made in consideration of a lump sum amount deposited in the beginning of the Policy. Annuity products come in handy for Pension Policies which are used to plan postretirement income.

For example, under the New Pension Scheme run by Pension Funds Regulatory and Development Authority a member of the Scheme saves money through the Scheme by making periodic contribution which is invested by NPS in market-linked instruments and the corpus grows like a mutual fund. Upon the member attaining the age of Superannuation, NPS utilizes the entire lump sum (or up to 2/3rds, if the member wants to commute 1/3 of the corpus) to purchase an annuity policy from a Life insurance company. Thereafter, the Life insurer starts paying an immediate annuity to the purchaser till his/her death (or after his/her death to Spouse etc., depending upon the nature of annuity option).

Linked Life Insurance Products:

These are Life insurance products which are a combination of Term insurance plus Investments. Under Linked insurance products, after deducting the premium towards mortality (risk premium) for covering the benefit payable on death, the Life insurer allocates the balance premium available for investments in market-linked instruments (like Mutual fund) and declare Net Asset Value of the investment portion. Life insurer is eligible to deduct charges like Premium allocation charges, Policy administration charges, Fund management charges etc., for administering and managing the investment portion of the premium. On death, the Nominee usually gets the Sum Assured + Fund value on date of death. However, there are other options available. Upon maturity, usually only the Fund value is paid.

Variable Life Insurance Products:

These are also called Universal Life Products, which provide a guaranteed interest credits (like a Bank account) in addition to Life insurance cover. These are in the nature of Deposit-linked-life insurance products. However, these products are not popular in India.

Children's Benefit Policies:

These Policies are generally built on Endowment Policies platform in such a way that the lump sum benefit is payable to take care of the needs of Children's education, marriage needs etc. Under these policies, the life assured

is usually the child and the Policyholder is the Parent. Upon the child attaining the majority, usually there is an option of automatic vesting, under which the ownership of the Policy gets transferred to the child-life assured. Thereafter it becomes an own life Policy on the life of the child which has attained the age of majority.

There are benefits of Premium Waiver, as per which if the Parent dies, the future premiums are waived and the Policy continues to be in force for full benefit which is payable to the Child as specified in the Policy document.

Pension and Annuity Policies:

A Pension Policy helps a person to plan his retirement by building a corpus during a person's active life, which will be utilised to buy an annuity policy under which periodic benefit is paid (usually monthly) to the Policyholder till his life time (life annuity option). If a Pension Policy is taken, say, at the age of 30 for a period of 28 years, the premiums are usually paid during these 28 years to build the corpus (also called the deferment period). On attaining age 58, the Policy matures for payment. Out of the corpus available at that time, the Policyholder is allowed commute (withdraw as lump sum) upto 1/3rd of the corpus and the remaining 2/3rd is utilised to purchase an annuity under an Immediate Annuity Policy.

Under the Immediate Annuity Policy, the lump sum is paid as a Single Premium and the annuity payment starts immediately thereafter every month. There are various annuity options like Life annuity option, Annuity certain for, say 5 years, Widow's Pension, Annuity with return of corpus on death etc. Under Life annuity option, the annuity is paid as long as the person lives while under Annuity certain for, say 5 years, even if the Annuitant dies any time within 5 years from the start of the annuity policy, the annuity amount is payable for the remainder period till completion of 5 years and then the annuity will stop. Under Widow's Pension, after the annuitant's death, the annuity payments will continue to be paid to wife till her death. Lastly, under the Annuity with return of corpus option, upon death of the annuitant, the corpus invested as a lump sum. The quantum of benefit will vary depending on the type of annuity option selected.

Group Insurance Policies :

As distinguished from individual policies, which are a contract between an individual policyholder and a life insurance company and covers the risk on the life only the individual, under Group insurance policies, a group of lives are covered under an umbrella Group insurance policy taken by an organisation of which lives assured are members.

For example, the borrowers of a Bank can be covered under a Group Life insurance policy taken by the Bank with a Life insurance company. Upon death of the borrower, the outstanding loan amount is paid by the Life insurance company to the Bank and the balance amount is paid to the Nominee. By doing so, the Asset (e.g., House) against which a loan was taken becomes encumbrance-free for the Nominee.

Premiums under Group insurance policies are cheaper since the risk assessment of the overall profile of the customers insured is taken into consideration, rather than individual's risk assessment under Individual contracts. Therefore, even a sub-standard life can get the benefit of an average premium fixed based on the overall risk profile of the group.

There has to be a subsisting relationship between the organisation taking the Group insurance policy and the lives covered under a Group insurance policy.

Premiums can be contributory or non-contributory. Under the contributory schemes, the premiums are shared between the Group policyholder and the life assured whereas under the non-contributory schemes, the entire premium is paid by the Life assured.

A Group policyholder can act as the servicing point for the lives covered under a Group policy taken by them. They are allowed to render data management services, Premium collections, claims assistance etc. on behalf of the Life Insurance Company and can collect a small fee as a consideration for the services rendered to the Life insurer.

While a Group Master Policy is issued to the Group Policyholder (Organisation), the individual lives covered under the Group Policy are issued a “Certificate of insurance” which is an evidence of insurance cover provided by the Life insurer. This is equivalent of a Policy document issued under an individual Policy contract. Normally only the Life insurer is allowed to issue Certificate of insurance. However, the service of issuance of a Certificate of insurance can also be performed by the Group policyholder (especially larger Groups under which the lives assured are spread across various geographical locations). However, the control over issue of Certificates of insurance lies with the Life insurer who is expected to conduct inspection of the Group policyholders to check adherence to the guidelines of IRDAI on Group insurance as applicable to Group policyholders.

Linked Life Insurance Policies:

Also called Unit Linked Life Insurance Policies (ULIPs), these Policies combine a Term insurance with an investment option. Under ULIPs, out of the Premiums collected from the Policyholder, after deducting the charges applicable towards risk cover and charges for administration and management of investments, the balance amount is invested in market linked instruments.

Therefore, the Customer has 2 benefits, a Sum assured payable upon death plus the marked to market value of the investments made on behalf of the Policyholder by the Life Insurance Company.

Under ULIPs, the risk on investment portion is borne by the Policyholder. The investment portion of ULIPs works like a Mutual fund as follows:

- (1) Customer selects the fund option – Equity based, Debt based, balanced fund etc.
- (2) Life insurance company invests in instruments as per the option selected in (1) above.
- (3) Units are created to represent the investments made.
- (4) Daily Net asset value (NAV) is declared which will reflect the marked-to-market value of the units.
- (5) On death or maturity, the units are sold and the marked-to-market value is paid.

Usually, the following 2 typical benefit options are available to the Policyholder upon death:

- (1) Get the Sum Assured + Fund value (Marked-to-market value of the units)
- (2) Higher of Sum Assured (or) Fund Value

Risk premium (also called mortality charges) is usually calculated on a daily basis and deducted by selling appropriate units.

Following are the charges generally applicable in ULIPs:

- (1) Charges deducted from Premium:
 - a. Premium allocation charges – under which a percentage of premium is deducted upfront from the premiums paid
- (2) Charges deducted by cancellation of units:
 - a. Policy administration charges – which is usually a fixed amount per month (e.g. Rs.40 per month).
 - b. Mortality charges represents the risk premium.
 - c. Surrender or discontinuance charges payable upon surrender or exit from an ULIP contract.
 - d. Switching charges where the Policyholder is allowed to switch from one fund to another fund.
 - e. Rider charges to cover the risk coverage provided under a Rider benefit.
 - f. Partial withdrawal charges leviable whenever a Policyholder withdraws an amount from his unit linked fund.

- (3) Charges appropriated from Fund value:
 - a. Fund management charges, which will not exceed 1.35% and is adjusted from NAV.
 - b. Guarantee charges, cost of any guarantees given on the ULIPs – also adjusted from NAV.

Health Insurance Products:

Health insurance products cover the risk of hospitalisation and provide financial support upon hospitalisation of the life assured. There are 2 types of health insurance products:

- a. Indemnity based health insurance products
- b. Fixed benefit-based health insurance products

Indemnity based health insurance products are sold by non-life insurance companies and Standalone health insurance companies. Under these products, the actual amount spent by the Life assured is paid by the Insurance Company within the limits of the Sum assured selected. Either the amount is reimbursed to the Life assured or the amount is paid directly to the Hospital (Cashless scheme) by the Insurance Company. Fixed benefit-based health insurance products are usually critical illness policies under which a fixed amount is paid to the Life insured upon proof of hospitalisation and the proof of having spent the money for diagnosis, medicines etc., is usually not insisted. By definition, Travel insurance is also included in the definition of health insurance products.

7.5.3 Solvency Margins of Life Insurers:

State-owned Life Insurance Corporation (LIC) has been facing problems in meeting the solvency margin stipulation which came into effect from April 1, 2001. The problems are owing to its financial structure, and not because there is a likelihood of the corporation becoming insolvent. LICs capital base has remained unchanged at Rs 5 crore since 1956, though the premium earned and assets owned have grown manifold. Its total assets are reported to be in excess of ₹ 3 lakh crore.

After the opening up of the insurance sector, LIC, like any private insurer, needs to adhere to Insurance Regulatory Development Authority (IRDA) norms, including those with regard to solvency margins. So, it wants to raise funds from the public to fulfil these norms. In a recent presentation to Parliaments standing committee on finance, LIC made a case for amending the LIC Act so that it could raise the required funds to meet the solvency margin norm. A Closer Look at the solvency margin and its facets:

What is the solvency margin?

Put simply, it indicates how solvent a company is, or how prepared it is to meet unforeseen exigencies. It is the extra capital that an insurance company is required to hold. As per the IRDA (Assets, Liabilities, and Solvency Margin of Insurers) Rules 2000, both life and general insurance companies need to maintain solvency margins. While all non-life insurers are required to follow the regulations, life insurance companies are expected to maintain a 150% solvency margin.

Why is the solvency margin needed?

All insurance companies have to pay claims to policy holders. These could be current or future claims of policy holders. Insurers are expected to put aside a certain sum to cover these liabilities. These are also referred to as technical provisions. Insurance, however, is risky business and unforeseen events might occur sometimes, resulting in higher claims not anticipated earlier. For instance, calamities like the Mumbai floods, J&K earthquake, fire, accidents of a large magnitude, etc may impose an unbearable burden on the insurer.

In such circumstances, technical provisions though initially prudent, may prove insufficient for taking care of liabilities. If the liability is large, there is a possibility of the insurance company becoming insolvent. This would create an awkward situation for the insurance sector, regulator and also the government. The solvency margin is thus aimed at averting such a crisis. The purpose of the extra capital all insurers are required to keep as per the

regulatory norms is to protect policy holders against unforeseen events.

Does it mean that insurance companies can never fail?

The solvency margin is designed to take care of problems that are usually not anticipated. It also provides elbow room to the managers of insurers to rectify problems and take precautionary measures. However, whether an insurance company will fail will also depend upon the magnitude of the crisis. Ordinarily, an insurance company with the requisite solvency margin is not likely to fail.

However, insurance is a risky business and there can be no absolute guarantee. Events such as the terrorist attack on the World Trade Centre in New York can create unexpected liabilities of a magnitude difficult to anticipate and cover. Liabilities can also increase manifold as a result of fraud by employees. No insurance regulator or company can completely guard against fraud, solvency margin norms notwithstanding. Such occurrences, however, are rare. Insurance failure in the past two decades have been rare.

How is the solvency ratio worked out?

All insurers in India have to determine the solvency margin as per the guidelines laid down under IRDA Rules. The process involves valuation of the assets and determination of the liabilities. The value is assigned to assets as per the provisions laid down in IRDA Rules.

For instance, advances of unrealisable character, deferred expenses, preliminary expenses in the formation of the company, etc are to be assigned zero value. Assets also include the insurance company's investment in approved securities, non-man-dated investments, etc.

The determination of liabilities is more complicated. IRDA Rules have prescribed a detailed method for the determination of liability by both life insurance as well as general insurance companies. In the former case, a company also has to take into account the options available to the insured while determining the liability.

After working out the assets and liabilities, the insurer works out the available solvency margin, which is basically the difference between the value of assets and that of insurance liabilities. Thereafter, the company works out a solvency ratio, which is the ratio of the available solvency margin to the amount of required solvency margin.

7.5.4 Various players in Life Insurance Business:

The insurance industry of India has 57 insurance companies - 24 are in the life insurance business, while 34 are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is the sole public sector company. There are six public sector insurers in the non-life insurance segment. In addition to these, there is a sole national re-insurer, namely General Insurance Corporation of India (GIC Re). Other stakeholders in the Indian Insurance market include agents (individual and corporate), brokers, surveyors and third-party administrators servicing health insurance claims.

The life insurance industry is expected to increase at a CAGR of 5.3% between 2019 and 2023. India's insurance penetration was pegged at 4.2% in FY21, with life insurance penetration at 3.2% and non-life insurance penetration at 1.0%. In terms of insurance density, India's overall density stood at US\$ 78 in FY21.

Premiums from India's life insurance industry is expected to reach Rs. 24 lakh crore (US\$ 317.98 billion) by FY31.

In the first half of FY22, the life insurance industry recorded growth rate of 5.8% compared with 0.8% in the same period last year.

The gross first year premium of Life insurers increased by 6.94% in 2021-22 (until January 2022) to Rs. 2,27,188 crore (US\$ 29.54 billion).

Between April 2021 and January 2022, gross premiums written off by non-life insurers reached Rs. 227,188.89 crore (US\$ 21.24 billion), an increase of 6.94% over the same period in FY21. In January 2022, total premium earned by the non-life insurance segment stood at Rs. 21,957.03 crore (US\$ 2.85 billion), as compared to the Rs.

21389.70 crore (US\$ 2.77 billion) recorded in January 2021.

The market share of private sector companies in the general and health insurance market increased from 48.03% in FY20 to 49.31% in FY21.

Premiums from new businesses of life insurance firms in India totalled US\$ 81.7 billion in FY21, representing a 2.8% increase over FY20.

Six standalone private sector health insurance companies registered a jump of 66.6% in their gross premium at Rs 1,406.64 crore (US\$ 191.84 million) in May 2021, as against Rs. 844.13 crore (US\$ 115.12 million) earlier.

In March 2021, health insurance companies in the non-life insurance sector increased by 41%, driven by rising demand for health insurance products amid COVID-19 surge.

In July 2021, non-life insurers' premium, which include general, standalone and specialised public-sector, recorded 19.46% YoY growth and reached Rs. 20,171.15 crore (US\$ 2.71 billion) against Rs. 16,885 crore (US\$ 2.27 billion) in the same month last year.

According to S&P Global Market Intelligence data, India is the second-largest insurance technology market in Asia-Pacific, accounting for 35% of the US\$ 3.66 billion insurtech-focused venture investments made in the country.

Investments:

The following are some of the major investments and developments in the Indian insurance sector.

- ICICI Lombard and Airtel Payments bank have entered into a partnership for providing cyber insurance in February 2022.
- Probus Insurance receives US\$ 6.7 million in funding from a Swiss impact fund in December 2021.
- Companies are trying to leverage strategic partnership to offer various services as follows:
- In November 2021, ICICI Lombard collaborated with Vega to provide a personal accident insurance cover with every online Vega helmet purchase to increase road safety awareness among customers.
- In November 2021, ICICI Prudential Life Insurance partnered with NPCI Bharat BillPay, a subsidiary of National Payments Corporation of India (NPCI), to offer Click Pay feature to its customers.
- In November 2021, the Competition Commission of India (CCI) approved HDFC Life Insurance's acquisition of 100% shareholding in Exide Life Insurance. The move is expected to strengthen HDFC Life's position in South India.
- In November 2021, Willis Towers Watson acquired the remaining 51% shares in WTW India, taking the company's holding in WTW India to 100%.
- In November 2021, Acko, a digital insurance start-up, raised US\$ 255 million in funds, taking the company's valuation to ~US\$ 1.1 billion.
- In September 2021, ZestMoney raised US\$ 50 million to enter new business opportunities in the insurance sector.
- In August 2021, PhonePe announced that it has received preliminary approval from IRDAI to act as a broker for life and general insurance products. As a result, the company can now offer insurance advice to its 300+ million users.
- In FY21, LIC achieved a record first-year premium income of Rs. 56,406 crore (US\$ 7.75 billion) under individual assurance business with a 10.11% growth over last year.
- In India, gross premiums written of non-life insurers reached US\$ 26.52 billion in FY21 (between April 2020 and March 2021), from US\$ 26.49 billion in FY20 (between April 2019 and March 2020), driven by strong growth from general insurance companies.

- In August 2021, ICICI Prudential Life Insurance tied up with the National Payments Corporation of India (NPCI) to provide a unified payments interface autopay.
- In August 2021, ICICI Lombard General Insurance introduced extensive coverage for remote piloted aircraft, particularly drone operators. This product protects the drone, as well as the payload (camera/equipment) attached to it, against theft, loss, or damage, and third-party liabilities.
- In July 2021, MedPay, a Bengaluru-based B2B tech start-up, built an API infrastructure that connects healthcare service providers, standalone clinics, pharmacies, labs and insurance companies through its MedPay Connected Care Network (CCN).
- In June 2021, Bharti AXA Life Insurance reported a 10% renewal premium increase of Rs. 1,498 crore (US\$ 200.64 million) in FY21.
- In June 2021, LIC Housing Finance announced plans to raise ~Rs. 2,334.69 crore (US\$ 312.43 million) through preferential issue of equity shares to the Life Insurance Corporation of India (LIC).
- On July 1, 2021, the LIC introduced its Saral Pension Scheme, which is a non-linked, non-participating, single premium, individual immediate annuity plan.
- In July 2021, Gallagher announced plan to acquire 100% stake in India's Edelweiss Gallagher Insurance Brokers.
- In June 2021, Aditya Birla Sun Life Insurance announced the launch of a new Vision LifeIncome Plus Plan that will provide guaranteed regular income plus flexible bonus payouts to policyholders.
- In June 2021, Wardwizard Group ties up with Bajaj Allianz to offer insurance policies to Joy e-Bike customers.
- In May 2021, Max Life Insurance Co. Ltd. launched 'Max Life Saral Pension', a non-linked, individual immediate annuity plan.
- In March 2021, health insurance companies in the non-life insurance sector increased by 41%, driven by rising demand for health insurance products amid COVID-19 surge.
- In February 2021, Bharti AXA General Insurance launched its 'Health AdvantEDGE' health insurance scheme to provide holistic cover against accelerating costs associated with medical requirements and other healthcare facilities.
- In February 2021, ICICI Lombard General Insurance, a non-life insurance firm in the private sector, has been authorised by the International Financial Services Centre (IFSC) to establish an IFSC Insurance Office (IIO) in GIFT City in Gandhinagar, Gujarat.

Government Initiatives:

The Government of India has taken number of initiatives to boost the insurance industry. Some of them are as follows:

- In 2022, the Indian government plans to sell a 7% stake in LIC for Rs. 50,000 crore (US\$ 6.62 billion). This is the largest initial public offering (IPO) in India.
- In November 2021, the Indian government signed an agreement with the World Bank for a US\$ 40 million project to advance the qualities of health services in Meghalaya, including the state's health insurance programme.
- In September 2021, the Union Cabinet approved an investment of Rs. 6,000 crore (US\$ 804.71 million) into entities, offering export insurance cover to facilitate additional exports worth Rs. 5.6 lakh crore (US\$ 75.11 billion) over the next five years.

- In August 2021, the Parliament passed the General Insurance Business (Nationalisation) Amendment Bill. The bill aims to allow privatisation of state-run general insurance companies.
- Union Budget 2021 increased FDI limit in insurance from 49% to 74%. India's Insurance Regulatory and Development Authority (IRDAI) has announced the issuance, through Digilocker, of digital insurance policies by insurance firms.
- Under the Union Budget 2021, Finance Minister Ms. Nirmala Sitharaman announced that the initial public offering (IPO) of LIC will be implemented in FY22, as part of the consolidation in the banking and insurance sector. Though no formal market valuation has been undertaken, LIC's IPO has the potential to raise Rs. 1 lakh crore (US\$ 13.62 billion).
- In June 2021, the government extended a Rs. 50 lakh (US\$ 66.85 thousand) insurance coverage scheme for healthcare workers across India until the next one year.
- In February 2021, the Finance Ministry announced to infuse Rs. 3,000 crore (US\$ 413.13 million) into state-owned general insurance companies to improve the overall financial health of companies.
- Under Union Budget 2021, fund of Rs. 16,000 crore (US\$ 2.20 billion) has been allocated for crop insurance scheme.
- The future looks promising for the life insurance industry with several changes in regulatory framework which will lead to further change in the way the industry conducts its business and engages with its customers.
- Life insurance industry in the country is expected to increase by 14-15% annually for the next three to five years.
- The scope of IoT in Indian insurance market continues to go beyond telematics and customer risk assessment. Currently, there are 110+ InsurTech start-ups operating in India.
- Demographic factors such as growing middle class, young insurable population and growing awareness of the need for protection and retirement planning will support the growth of Indian life insurance.

7.5.5 LIC of India:

The story of insurance is probably as old as the story of mankind. The same instinct that prompts modern businessmen today to secure themselves against loss and disaster existed in primitive men also. They too sought to avert the evil consequences of fire and flood and loss of life and were willing to make some sort of sacrifice in order to achieve security. Though the concept of insurance is largely a development of the recent past, particularly after the industrial era, past few centuries, yet its beginnings date back almost 6000 years.

Life Insurance in its modern form came to India from England in the year 1818. Oriental Life Insurance Company started by Europeans in Calcutta was the first life insurance company on Indian Soil. All the insurance companies established during that period were brought up with the purpose of looking after the needs of European community and Indian natives were not being insured by these companies. However, later with the efforts of eminent people like Babu Muttylal Seal, the foreign life insurance companies started insuring Indian lives. But Indian lives were being treated as sub-standard lives and heavy extra premiums were being charged on them. Bombay Mutual Life Assurance Society heralded the birth of first Indian life insurance company in the year 1870, and covered Indian lives at normal rates. Starting as Indian enterprise with highly patriotic motives, insurance companies came into existence to carry the message of insurance and social security through insurance to various sectors of society. Bharat Insurance Company (1896) was also one of such companies inspired by nationalism. The Swadeshi movement of 1905-1907 gave rise to more insurance companies. The United India in Madras, National Indian and National Insurance in Calcutta and the Co-operative Assurance at Lahore were established in 1906. In 1907, Hindustan Co-operative Insurance Company took its birth in one of the rooms of the Jorasanko, house of the great poet

Rabindranath Tagore, in Calcutta. The Indian Mercantile, General Assurance and Swadeshi Life (later Bombay Life) were some of the companies established during the same period. Prior to 1912 India had no legislation to regulate insurance business. In the year 1912, the Life Insurance Companies Act, and the Provident Fund Act were passed. The Life Insurance Companies Act, 1912 made it necessary that the premium rate tables and periodical valuations of companies should be certified by an actuary. But the Act discriminated between foreign and Indian companies on many accounts, putting the Indian companies at a disadvantage.

The first two decades of the twentieth century saw lot of growth in insurance business. From 44 companies with total business-in-force as ₹ 22.44 crore, it rose to 176 companies with total business-in-force as ₹ 298 crore in 1938. During the mushrooming of insurance companies many financially unsound concerns were also floated which failed miserably. The Insurance Act 1938 was the first legislation governing not only life insurance but also non-life insurance to provide strict state control over insurance business. The demand for nationalization of life insurance industry was made repeatedly in the past but it gathered momentum in 1944 when a bill to amend the Life Insurance Act 1938 was introduced in the Legislative Assembly. However, it was much later on the 19th of January, 1956, that life insurance in India was nationalized. About 154 Indian insurance companies, 16 non-Indian companies and 75 provident were operating in India at the time of nationalization. Nationalization was accomplished in two stages; initially the management of the companies was taken over by means of an Ordinance, and later, the ownership too by means of a comprehensive bill. The Parliament of India passed the Life Insurance Corporation Act on the 19th of June 1956, and the Life Insurance Corporation of India was created on 1st September, 1956, with the objective of spreading life insurance much more widely and in particular to the rural areas with a view to reach all insurable persons in the country, providing them adequate financial cover at a reasonable cost.

LIC had 5 zonal offices, 33 divisional offices and 212 branch offices, apart from its corporate office in the year 1956. Since life insurance contracts are long term contracts and during the currency of the policy it requires a variety of services need was felt in the later years to expand the operations and place a branch office at each district headquarter. Re-organization of LIC took place and large numbers of new branch offices were opened. As a result of re-organisation servicing functions were transferred to the branches, and branches were made accounting units. It worked wonders with the performance of the corporation. It may be seen that from about 200.00 crores of New Business in 1957 the corporation crossed 1000.00 crores only in the year 1969-70, and it took another 10 years for LIC to cross 2000.00 crore mark of new business. But with re-organisation happening in the early eighties, by 1985-86 LIC had already crossed ₹ 7000.00 crore Sum Assured on new policies.

Today LIC functions with 2048 fully computerized branch offices, 113 divisional offices, 8 zonal offices, 1381 satellite offices and the corporate office. LIC's Wide Area Network covers 113 divisional offices and connects all the branches through a Metro Area Network. LIC has tied up with some Banks and Service providers to offer on-line premium collection facility in selected cities. LIC's ECS and ATM premium payment facility is an addition to customer convenience. Apart from on-line Kiosks and IVRS, Info Centres have been commissioned at Mumbai, Ahmedabad, Bangalore, Chennai, Hyderabad, Kolkata, New Delhi, Pune and many other cities. With a vision of providing easy access to its policyholders, LIC has launched its SATELLITE SAMPARK offices. The satellite offices are smaller, leaner and closer to the customer. The digitalized records of the satellite offices will facilitate anywhere servicing and many other conveniences in the future.

LIC continues to be the dominant life insurer even in the liberalized scenario of Indian insurance and is moving fast on a new growth trajectory surpassing its own past records. LIC has issued over one crore policies during the current year. It has crossed the milestone of issuing 1,01,32,955 new policies by 15th Oct, 2005, posting a healthy growth rate of 16.67% over the corresponding period of the previous year.

From then to now, LIC has crossed many milestones and has set unprecedented performance records in various aspects of life insurance business. The same motives which inspired our forefathers to bring insurance into existence in this country inspire us at LIC to take this message of protection to light the lamps of security in as many homes as possible and to help the people in providing security to their families.

Some of the important milestones in the life insurance business in India are:

1818: Oriental Life Insurance Company, the first life insurance company on Indian soil started functioning.

1870: Bombay Mutual Life Assurance Society, the first Indian life insurance company started its business.

1912: The Indian Life Assurance Companies Act enacted as the first statute to regulate the life insurance business.

1928: The Indian Insurance Companies Act enacted to enable the government to collect statistical information about both life and non-life insurance businesses.

1938: Earlier legislation consolidated and amended to by the Insurance Act with the objective of protecting the interests of the insuring public.

1956: 245 Indian and foreign insurers and provident societies are taken over by the central government and nationalised. LIC formed by an Act of Parliament, viz. LIC Act, 1956, with a capital contribution of Rs. 5 crore from the Government of India.

The General insurance business in India, on the other hand, can trace its roots to the Triton Insurance Company Ltd., the first general insurance company established in the year 1850 in Calcutta by the British.

Some of the important milestones in the general insurance business in India are:

1907: The Indian Mercantile Insurance Ltd. set up, the first company to transact all classes of general insurance business.

1957: General Insurance Council, a wing of the Insurance Association of India, frames a code of conduct for ensuring fair conduct and sound business practices.

1968: The Insurance Act amended to regulate investments and set minimum solvency margins and the Tariff Advisory Committee set up.

1972: The General Insurance Business (Nationalisation) Act, 1972 nationalised the general insurance business in India with effect from 1st January 1973.

107 insurers amalgamated and grouped into four companies viz. the National Insurance Company Ltd., the New India Assurance Company Ltd., the Oriental Insurance Company Ltd. and the United India Insurance Company Ltd. GIC incorporated as a company.

7.5.6 Post Office Life Insurance:

On February 1, 1884, Postal Life Insurance (PLI), the oldest insurer in the country was introduced under the Queen Empress of India with the express approval of the Secretary of State (for India) to Her Majesty. The scheme at the time was intended as welfare scheme to benefit Postal service employees. It was later extended to employees of Telegraph department in 1884. In its early initiation days, the maximum insurance amount limit was ₹ 4,000, currently at ₹ 50 lakhs.

The Postal Life Insurance schemes are some of the most convenient and reasonably low-premium personal investment products in the country.

Postal Life Insurance Scheme offers life insurance cover with high returns on premium. The maximum sum assured offered under this scheme is ₹ 50 lakhs. This policy is offered by the Government of India, to employees of Central and State Public Sector Enterprises, Central and State Governments, Government Aided Educational Institutions, Universities, Government aided Educational Institutions, Autonomous Bodies, Local Bodies, Cooperative Societies, Joint Ventures having a minimum of 10% Government/ PSU stake, etc. A group insurance scheme is also managed by Postal Life Insurance, which is for “Gramin Dak Sevaks”, i.e., Extra Departmental Employees, of the Department of Posts.

Features of Postal Life Insurance Policy:

A policyholder can avail the following benefits:

- Nomination facility: The policyholder can nominate his/her beneficiary, and can also make changes to the nomination.
- Loan facility: Loan facility is available against this policy. The policyholder can pledge his/her policy as a collateral to the Heads of the Region/ Circle on behalf of the President of India, once the policy has attained three years maturity in case of an Endowment Assurance policy and four years policy period has been completed in the case of a Whole Life Insurance policy. Assignment facilities are also available under this scheme.
- Policy Revival: A policyholder can revive a lapsed policy. The policy can be revived when policy has lapsed under the following conditions -
 - Policy has lapsed after six successive non-payments of premium with the policy being in effect for less than three years.
 - Policy has lapsed after 12 successive non-payments of premium where policy has been in effect for more than three years.
 - Duplicate Policy Document: A duplicate policy document will be issued to the policyholder if he/she has lost the original document. This also applies to the case where the original policy document is mutilated, burned or torn and the insured wants a duplicate of the same.
 - Conversion of Policy: This policy can be converted from a Whole Life Assurance policy to an Endowment Assurance Policy. An Endowment Assurance Policy can be converted to another Endowment Assurance plan as per the regulations and guidelines laid down by the insurer.

Benefits of Investing in PLI:

Some of the other benefits and discounts offered under the Postal Life Insurance scheme are as follows:

- The insured can avail income tax exemption as provided under Sec. 88 of the Income Tax Act.
- Additional facilities offered under this policy are Assignment, Loan, Conversion, Surrender and Paid-Up Value options.
- The policy can be transferred to any Circle within India, at no additional charges.
- Passbook facility is available to track the payment of premium and in case of loan transactions, etc.
- Premium can be paid on an annual, half-yearly and monthly basis. When the payment is due, the policyholder can make a payment on any working day.
- If paid an advance premium payment for a policy period of six months, then avail a discount on premium worth 1% of the value.
- If an advance premium payment for a policy period of 12 months, they can avail a discount on premium worth 2% of the value.
- Nomination facility is available.
- Since this scheme has a centralized accounting facility, claims process is quick and easy.

Postal Life Insurance Eligibility:

Employees of the organizations listed below are eligible to obtain a Postal Life Insurance policy:

- Defense Services
- Para Military Forces

- Central Government
- Para Military forces
- Local Bodies
- Reserve Bank of India (RBI)
- Government-aided Educational Institutions
- Public Sector Undertakings
- Nationalized Banks
- Financial Institutions
- Autonomous Bodies
- Those appointed by the Central/ State Government on a contract basis, where the contract can be extended.
- Employees of all scheduled Commercial Banks
- Extra Departmental Agents in Department of Posts
- Those employed in educational institutes that are accredited by recognized bodies such as All India Council of Technical Education, National Assessment and Accreditation Council, Medical Council of India etc.
- Those employed in Credit Co-operative Societies and other Co-operative Societies registered with Government under the Co-operative Societies Act. These can be partly or fully funded by State Government, Central Government, RBI, Nationalized Banks, State Bank of India (SBI), National Bank for Agricultural and Rural Development (NABARD), etc.

Advantages of Postal Life Insurance Policies :

- PLI schemes have several benefits awarded to their applicants and are the most sought out insurance products in the country because of their flexibility.
- Name of nomination can be changed by the insured at any given time.
- Duplicate policy bonds can be re-issued to the insured, in case the original Policy Bond is burnt, torn, lost, or mutilated.
- A lapsed postal insurance policy can be revived after six unpaid premiums if it remains in force for less than three years. It can also be revived after 12 unpaid premiums if it remains in force for more than three years.
- The insured can avail loan by pledging his/her scheme to Heads of the Circle/Region on behalf of the President of India, on the condition that the policy is three years old in case of Endowment Assurance and four years in case of Whole Life Assurance. Assignment facilities can also be availed.
- Policy can be assigned to taking a loan to any financial institution.
- It is possible to convert a Whole Life Assurance to Endowment Assurance and from Endowment Assurance to other Endowment Assurance, based on certain conditions and rules.

Types of Postal Life Insurance Schemes

There are seven different life insurance policies under PLI:

1. Whole Life Insurance (Suraksha):

The whole life insurance scheme from Postal Life Insurance has the following features and requirements:

- Scheme: Assured amount + accrued bonus is paid to nominee, assignee or legal heir, after the insured expires.

- Age Eligibility: **Minimum:** 19 years **Maximum:** 55 years
- Policy Conversion: Policy can be converted to an Endowment Assurance policy after completion of a year and before the insured turns 57 years of age.
- Minimum Sum assured: ₹ 20,000
- Maximum Sum Assured: ₹ 50 lakhs
- Loan Facility: Available after four years of completion
- Policy Surrender: Policy can be surrendered after three years of completion. Policyholders will not be eligible for the bonus if assigned or loaned five years before completion, else proportionate bonus on the reduced amount assured can be accrued if the policy is assigned for a loan or surrendered.
- Medical Examination: Mandatory
- Premiums Payable: The premiums are calculated based on factors such as age of maturity and age of entry and hence, variable for the applicant.

2. Endowment Assurance (Santosh):

The endowment assurance scheme from Postal Life Insurance has the following features and requirements:

- Scheme: Assured amount + accrued bonus is paid to proponent when he or she attains the pre-decided age of maturity. The sum amount insured and bonus is payable to the assigned, nominee or legal heir in case of unprecedented death.
- Age Eligibility: **Minimum:** 19 years **Maximum:** 50 years
- Policy Conversion: Policy can be converted to any other Endowment Assurance policy under the rules and regulations of PLI.
- Minimum Sum assured: ₹ 20,000
- Maximum Sum Assured: ₹ 50 lakhs.
- Loan Facility: Available after four years of completion
- Policy Surrender: Policy can be surrendered after three years of completion. The policy will not be eligible for the bonus if assigned or loaned five years before completion else a proportionate bonus on the reduced amount assured can be accrued if the policy is assigned for a loan or surrendered.
- **Medical Examination mandatory.**
- Premiums Payable: The premiums are calculated based on factors such as age of maturity and age of entry and hence, variable for the applicant.

3. Convertible Whole Life Insurance (Suvidha):

The convertible whole life insurance scheme from Postal Life Insurance has the following features and requirements:

- Scheme: Assured amount + accrued bonus is paid to proponent when he or she attains the pre-decided age of maturity. The sum amount insured and bonus is payable to the assigned, nominee or legal heir in case of unprecedented death.
- Age Eligibility: Minimum: 19 years Maximum: 55 years
- Policy Conversion: Policy can be converted to Endowment Assurance after five years but must not exceed 55 years. If the option for conversion is not used, the policy will automatically turn into a Whole Life Insurance by default.

- **Minimum Sum assured:** ₹ 20,000
- **Maximum Sum Assured:** ₹ 50 lakhs
- **Loan Facility:** Available after three years of completion
- **Policy Surrender:** Policy can be surrendered after three years of completion. The policy will not be eligible for the bonus if assigned or loaned five years before completion, else a proportionate bonus on the reduced amount assured can be accrued if the policy is assigned for a loan or surrendered.
- **Medical Examination mandatory**
- **Premiums Payable:** The premium amount is calculated on factors that include age of maturity and age of entry and hence, variable for the applicant.

4. **Anticipated Endowment Assurance (Sumangal):**

The anticipated endowment assurance scheme from Postal Life Insurance is best suited for people who expect periodical returns, and has the following features and requirements:

- **Scheme:** Money back policy
- **15 Years Term Policy:** 20% of benefits are paid post six years 20% of the assured sum, nine years 20% of the assured sum, 12 years 20% of the assured sum and 15 years 40% of the assured sum + assured bonus.
- **20 Years Term Policy:** Benefits are paid post eight years 20% of the assured sum, 12 years 20% of the assured sum, 16 years 20% of the assured sum and 20 years 40% of the assured sum + assured bonus
- **Maximum Sum Assured:** ₹ 50 lakhs.
- Such payments, in the event of unexpected death of the insured, will not be taken into consideration and the full sum assured + accrued bonus is payable to the assignee or legal heir.
- **Medical Examination mandatory.**
- **Premiums Payable:** The calculation premium is based on factors that include age of maturity and age of entry and hence, variable for the applicant.

5. **Joint Life Endowment Assurance (Yugal Suraksha):**

The joint life assurance from Postal Life Insurance requires any one of the spouses to be eligible for PLI policies. The scheme has the following features and requirements:

- **Scheme:** Both spouses are covered to the extent of sum assured + accrued bonus with only one premium.
- **Age Eligibility:** Minimum: 19 years Maximum: 55 years
- **Policy Conversion:** Policy can be converted to any other Endowment Assurance policy under the rules and regulations of PLI.
- **Minimum Sum assured:** ₹ 20,000/-.
- **Maximum Sum Assured:** ₹ 50 lakhs.
- **Loan Facility:** Available after three years of completion
- **Policy Surrender:** Policy can be surrendered after three years of completion. The policy will not be eligible for bonus if assigned or loaned five years before of completion else proportionate bonus on the reduced amount assured can be accrued if the policy is assigned for loan or surrendered.
- **Medical Examination mandatory**
- **Premiums Payable:** The premium amount is calculated on factors that include age of maturity and age of entry and hence, variable for the applicant.

6. Scheme for Physically Handicapped Person:

Any of the above-mentioned life insurance policies can be availed by physically handicapped applicants, under this scheme. However, premium prices are dependable on the nature and extent of handicap which will be determined through the mandatory medical examination.

7. Children Policy (Bal Jeevan Bima):

There is a separate policy for the children of policyholders which can be taken. Maximum two children in a family are eligible for this scheme:

- Main Policyholder Age Eligibility: Maximum: 45 years
- Children Age Eligibility: Minimum: five years Maximum: 20 years
- Maximum Sum Assured: Rs. 3 lakh or equivalent to the sum assured of the main policy holder whichever is less.
- Loan Facility: Not available
- No premium is payable, in case death of main policy holder and full sum assured + accrued bonus paid after the completion of the policy term.
- Main policyholder is responsible for payments for the Children Policy.
- No mandatory medical examination required for child.
- Policy bonus calculated at the rate applicable to Endowment Policy. The POIF Rules applicable at the time, shall be applicable to Children Policy.

7.5.7 Other Players:

The insurance industry has always been at the forefront of significant changes, and in turn, gets affected by them too. The environmental, operational, and technological changes have led to the evolution of this industry. The growth of the industry is also a source of funding for both financial markets and the economy. A technological and financially developed insurance system helps increase productivity and subsequently the economic growth.

As the companies now become more customer-centric, changes in customer behaviour have caused a fundamental shift in the way insurance is sold. Insurance distribution is a vital function of the value chain. Over time, face-to-face selling through agents and brokers has been accompanied by various other online and offline modes of distribution. And with the evolving technology, consumer expectations have gone up when it comes to buying insurance from various channels.

The Evolving Landscape of Distribution:

Insurance selling methods have been evolving over the years. Insurers have tried and tested various insurance distribution channels. But one channel that has been prevalent all this time, is the intermediary channel.

An intermediary has a distinct role to play in the entire life cycle of a product, from the point of sale through policy servicing, up to claim servicing. Insurance intermediaries serve as a bridge between consumers (seeking to buy insurance policies) and insurance companies (seeking to sell those policies).

If we talk in figures, more than 99% of life insurance policies are sold through face-to-face distribution or intermediaries in terms of premium. While for the remaining 1%, premiums are paid through web aggregators or online channels. In terms of the number of policies, the share of face-to-face distribution reduces to 98.75%, whereas online and web aggregator channels contribute 1.25%.

For the non-life insurance sector, the major contribution also remains face-to-face channels such as agents and brokers.

These numbers shed a light on the importance of in-person interactions with the customer in the insurance sector. With the introduction of multiple distribution channels, each channel requires different resources to be effective and impact the pricing structure. The type of insurance business model determines its structure, strategy and placement in the market. Take, for instance, India. The market size of the online insurance business in India is currently \$15 billion, but the overall insurance penetration rate is just 3.7%. In order to improve the penetration across regions, here are the key trends that will be changing the insurance industry:

Key Trends in the Insurance Distribution

Trend 1: Digital Shift in Insurance Buying Behaviour.

Today, people sitting and working from any corner of the country have easy access to the internet via computers, mobile phones and any hand-held devices. They use the internet for gathering information on their insurance policy, comparing two policies and making transaction to the insurer.

The buying experience might differ based on the type of insurance products. For say, customers still prefer to take advice from agents and brokers while buying life insurance products. Whereas, products like home and motor insurance are more commoditized and require less involvement of a personnel.

As per a report by McKinsey, using digital channel along the customer journey has become standard. But more than half of the customers can still not imagine buying insurance online.

In order to attract the millennial generation customers, insurers need to leverage the mobile and internet channels to sell their product. This can be done in ways such as:

- Integrating robust self-serve portals within the customer journey
- Identifying the products that are likely to be sold online.
- Analysing the customer behaviour and creating targeted marketing strategies.
- This will help in reducing the operational workload while increasing the customer satisfaction.

Trend 2: Multi-channel Insurance Distribution with SaaS Solutions

With the advancement in technology, there has been an increase in the number of insurance distribution channels. Therefore, new technology platforms have come into play to provide a streamlined customer journey.

Today the purchasing journey of a customer is fragmented and dispersed across different touchpoints: insurer, intermediary, and customer. The following figure by Swiss Re depicts the increasingly complex buying journey for insurance:

Additionally, increased competition from various insurance providers requires accelerated product and service deployment across various channels.

Industry Analysts estimate that the SaaS market will grow by more than 20 per cent annually, reaching nearly \$200 billion by 2024, a level that would represent nearly one-third of the overall enterprise software market. With enterprise values for SaaS businesses reaching approximately seven times forward revenue, insurance companies should leverage SaaS solutions to interact with the consumer and sell insurance through the customer-preferred channel.

This can be done by:

- Providing consumers with personalized services across the various channels used by the customer.
- Staying on top of the mind of the customer and reaching out to them when they need the most.
- Using reports from SaaS platforms to analyse the performance of various channels.
- Analysing customer behaviour to predict customers next move and act accordingly.

- Using third-party integrations to interact and follow-up with the customers through various social media channels.

Trend 3: Digitisation of the Existing Distribution Channels

Only 40% of Insurers have a digital strategy, although most claim a set of best practices, yet two thirds of insurance executives believe digital adoption will be a trend even after the pandemic. But will strategizing only about digital be enough?

Today, intermediary channels like Bancassurance, agents and brokers sell insurance. In order to fulfil the demands of the customer, digitisation needs to start from the existing distribution channels.

The idea behind this is to support the sales activities of the existing insurance agent network. The intermediaries need to leverage the digital tools to enhance the customer experience. This can be done by:

- Training insurance agents to advise the prospective customers through digital channels.
- Providing agents with digitised tools to carry day-to-day processes such as scheduling meetings and following up on payment.
- Notifying the agents through in-hand digitised tools for any upsell or cross-sell opportunity.
- Collaborating agents and direct channels on equal footing

This functionality improves convenience for the customer while maintaining the human component of the traditional channel.

With new challenges emerging every day within this complex market, the insurance sector is looking at digitizing the distributions channels for optimizing costs, improving overall accuracy and maximizing returns.

To Sum Up:

Insurance is a risk cover wherein the risk is transferred from the insured to the insurer. Risk is an uncertainty of loss or a combination of hazards. Risks are classified into Objective risk and Subjective risk; Financial risks and non-financial risks; pure risk and Speculative risk; Fundamental risk and Particular risk. Risks that have a direct impact on an individual, such as loss of ability to earn income, premature death, sickness or disability etc. are called personal risks and are insurable. Insurable risks also include property risk such as property damaged or destroyed because of fire, lightening, flood, cyclone, earthquake or any natural disasters, and liability risks wherein under the law of the land a person can be held legally liable if his/her act results in serious bodily injury or property damage to someone else. Insurance is the pooling of future unexpected losses by transfer of such risks to the insurers who agree to indemnify insured for such losses, to provide other preliminary benefits on their occurrence or to render services connected with the risks.

Classification of insurance according to the type of coverage has also been discussed. Life insurance is designed to be an effective and efficient means of planning for adverse financial consequences in the event of untimely death of income earner for the average family. During an individual's life span his needs may vary and hence in order to reach maximum number of customers having diverse needs, product differentiation is a must. The features generally used to bring about product differentiation are sum assured, principal and supplementary benefits of the policy, embedded or in-built options available under the policy, policy term, premium paying modes available, etc.

Conventionally insurance is classified as Life insurance and non-life insurance. Non-life insurance provides cover for cottage industry and small sector, traders and shopkeepers, and personal line of insurance. Non-life insurance policies are contracts of indemnity and involves insurable interest, indemnity, subrogation and contribution. In this unit we have explained in detail, about the various non-life insurance products such as Marine insurance, Fire insurance, Liability insurance, Burglary insurance, Money insurance, Householder's policy, Mediclaim policy etc.

Caselet-1:

M/s NG Ltd. is engaged in the manufacture and sale of metalized and coated films and papers. The company is planning to start a new manufacturing facility for which project planning has already begun. The project team is working day and night to procure land, financial arrangements, procuring orders and procurement of machinery from various places, storing machinery purchased and delivered, etc. The company agreed to purchase one Machinery from M/s GV Limited, England for a total value of ₹ 5 lakh. The machinery purchased was to be installed at the company's Plant at Jammu and to ensure, secured and safe delivery, the company took a marine cargo (Specific Voyage Policy) for a total assured sum of ₹ 500 lakh against any loss/damage occurring to the machinery during transit from Port to Jammu. The company paid the insurance premium due, to complete the contract. NG Ltd. bought the same policy from another insurer also for the same sum insured and on almost the same terms and conditions. The machinery had arrived at Mumbai Port and was delivered to the petitioner's warehouse at Jammu. However, on opening the packed cases, it transpired that the machinery had got damaged during transit. Both the diffusion pumps of the vacuum metallizer had cracked and the elbow of one of the pumps had bent and was damaged beyond repair. Consequently, insurers were informed about the damage and also sought for surveying assessment of loss estimated at ₹ 50 lakhs.

Answer the following questions considering the above:

1. Is it possible that NG Ltd. can take multiple marine insurance policies for the same cargo? In insurance terminology, what do we call NG Ltd.?
2. Discuss the admissibility of the claim and which insurer will bear the loss?
3. Do you think any insurance product covers the project before it starts operations? Discuss

Answer:

1. It is possible that the Policyholder can take multiple marine insurance policies for the same cargo or freight with different insurers. Under such circumstances, where two or more policies are effected by or on behalf of the same assured on the same adventure and interest or any part thereof, and the sums insured exceed the indemnity allowed by Marine Insurance Act, 1963, the assured is said to be over-insured by double insurance. NG Ltd. is called insured as NG Ltd. procures the policy or becomes the beneficiary through the insurance contract.
2. Claim is admissible and where the assured is over-insured by double insurance:
 - a. the assured unless the policy otherwise provides, may claim payment from the insurers in such order as he may think fit. However, he is not entitled to receive any sum over the indemnity allowed by this Act.
 - b. where the policy under which the assured claims is a valued policy, the assured must give credit as against the valuation, for any sum received by him under any other policy, without regard to the actual value of the subject-matter insured.
 - c. where the policy under which the assured claims is an unvalued policy he must give credit, as against the full insurable value, for any sum received by him under any other policy.
 - d. where the assured receives any sum over the indemnity allowed by Marine Insurance Act, 1963, he is deemed to hold such sum in trust for the insurers, according to their right of contribution among themselves.
3. Before an industry is set up, it involves project planning, financing, procurement of land, land levelling and earthwork, excavation of land, placing orders and procurement of machinery from various places, storing this machinery and other equipment connected with the project in safe conditions, erecting the equipment's as per a planned schedule and finally testing and commissioning the erected plant and machinery for their rated capacity. So, the project can be insured. The engineering policies, recommended at the project stage can be any one of the following three covers:

1. Erection All Risks (also known as Storage Cum Erection Insurance).
2. Contractors (Construction) All Risks Insurance.
3. Contractor's Plant and Machinery Insurance.

Caselet-2:

Rohit proposed to purchase Life Insurance Policy (Unit Linked) from ABC Insurance Co. Ltd. The company asked him to get his medical done for which expenses were borne by the proposed insurer. After receiving the medical reports, the insurer accepted the proposal, and consequently, the policy documents were issued. Policy documents contained some wrong information like the name of the insured, date of birth, and details of the riders attached to the property. Rohit got annoyed and decided to cancel the policy and claim the refund of the premium paid by him.

1. List the rules of Interpretation of a policy.
2. Calculate the refund amount considering the given information:
Sum Insured: ₹ 100.00 lakh
Premium Paid: ₹ 1,00,000.00
Units allotted at the time of Policy Issuance: 8,000 @ ₹ 10.00 per unit
Medical Expenses: ₹ 5,500
The proportionate Risk premium for the cover period: ₹ 12,500
Stamp Duty Charges: ₹ 800
Fund Manager Charges: ₹ 1,200
Unit Price as of the date of cancellation: ₹9.50 per unit.

Solution:

1. The following rules of Interpretation of a policy are applied:
 - Printed and written portion of the policy is to be construed together as far as possible.
 - In case of contradiction, the written portion overrides the printed portion.
 - The policy is to be interpreted as a whole.
 - The words in the policy are to be given their plain, ordinary and popular meanings.
 - Technical words are to be given their strict technical meaning.
 - The ordinary rules of grammar shall apply.
2. Refund Amount Calculation in the case of ULIP Policy where the insured disagrees with any of the terms or conditions, he has the option to return the policy stating the reasons for his objection, when he shall be entitled to a refund of the premium paid, subject only to a deduction of a proportionate risk premium for the period on the cover and the expenses incurred by the insurer on medical examination of the proposer and stamp duty charges. In respect of a unit-linked policy, in addition to the deductions under sub-regulation (2) of this regulation, the insurer shall also be entitled to repurchase the unit at the price of the units on the date of cancellation.

Premium Amount = Unit Value as on the date of Cancellation x Number of units = ₹ 9.5 x 8,000 = ₹ 76,000

Less: Sum of Medical Expenses + Proportionate Risk Premium + Fund Manager charges and Stamp duty Charges
= ₹ 5,500 + ₹ 12,500 + ₹ 800 + ₹ 1,200 = ₹ 20,000

Amount Refundable = ₹ 76,000 - ₹ 20,000 = ₹ 56,000

Caselet-3:

Arvind while taking the Life Insurance Policy had informed in his proposal form to ABC Insurance Company that he is a smoker. He also submitted special reports of his diabetes and blood pressure, which were asked by the company. The proposal was accepted with an extra premium and was informed on 10th January 2019. He was hospitalized on 17th January 2019 due to chest congestion and breathlessness. He was under treatment from 17th January. However, he died on 1st October 2019 due to heart failure. The claim was repudiated on the grounds of suppression of material facts based on certificates of treatment, prescriptions, and letters from doctors and hospitals. It was observed that all the diagnoses/treatments commenced after 17th January. All the documents proved that the deceased was not aware of his ailment at the time of taking the proposal.

Solution:

The facts of the case are all evidence that the diagnosis and treatment of the said disease chest congestion and breathlessness all started on 17th January 2019 only. Further, all the documents also proved that the deceased was not aware of his ailment at the time of taking the proposal. The respondent (the insurer) has to be directed to pay the full claim amount as all the documents proved that the deceased was not aware of his ailment at the time of taking the proposal. On 10th January 2019 proposal submitted the special report on diabetes and blood pressure for which he paid an extra premium. The insurer should be given a full claim as he was not aware of it.

Caselet-4:

Bharti was working as a supervisor in the postal department. While taking the life insurance policy on 5th January 2008 she had produced a voter ID card as the age proof and the agent filled up the proposal form. The date of birth mentioned in that voter ID was 01-01-1950 though her actual date of birth was 01-08-1943. However, she passed away on 20th December 2008. The insurer has repudiated the claim based on the allegation of wrong age proof.

Solution:

The proposal would not have been accepted if she had declared her correct age. As a government employee for several numbers of years, she was aware of the importance of proof of age. She had deliberately understated her age to defraud the insurer, to accept the proposal, and thereby misled the respondent into taking a proper underwriting decision. Hence the decision taken by the insurer in repudiating the claim is just and fair and hence does **not require any interference**.

Caselet-5:

Mr. Siva Prasad purchased a Unit Linked Insurance Policy from XYZ Insurance Company on 8th August 2018. He was under the treatment for High BP before the issue of the policy. He did not reveal this information to the insurance company. Within one year of the commencement of the policy, on 1st May 2019, he died due to Coronary Arterial Disease (CAD). The insurer produced the evidence, which proved that the life assured died due to uncontrolled hypertension, which led to CAD death. Due to non-disclosure of the material fact, the SA claim was repudiated.

Solution:

The life assured was suffering from Hypertension, which he did not disclose in the proposal form.

The life assured died within 9 months from the date of commencement of the policy. Due to nondisclosure of the material fact, the sum assured claim can be repudiated. The decision of the insurer can be upheld since there was the suppression of material fact. As ULIP Policy has the provision for investment, the insurer can be ordered to pay **the investment portion (Fund Value)**.

Caselet-6:

Chandra Shekhar, his wife, and her brother were traveling in a two-wheeler from Vijayawada to Guntur at night and they met with an accident due to being hit and run by a lorry. The wife and her brother died in the accident. The

FIR and PIR had concluded that it was a breach of law since 3 people were traveling in a 2-wheeler in which only 2 are allowed to travel. Though the life assured was only a pillion rider, she was traveling as one of the passengers on the Motor Cycle (As per MV Act only two persons are permitted), which amounts to a breach of law. The insurer **refused to pay the accident benefit sum assured since the accident was caused due to a breach of law.**

Solution:

The complaint can be dismissed because 3 persons were riding on a two-wheeler and as per the law, only 2 persons can ride on a two-wheeler as per MV Act, so on the ground that the accident happened and death occurred due to breach of law and the insurer is correct in repudiating the Accident Benefit Sum Assured.

Caselet-7:

Raghuvir, a farm owner holds 50 acres of land at Badli Village in Haryana. His main cultivation was mustard seeds for which he uses a separate irrigation facility. He uses to buy fertilizer from a nearby fertilizer factory adjacent to his land. The waste products from the fertilizer factory flow to a nearby lake through a cement pipe and the pipe runs through the agricultural land of Raghuvir. The waste products were the various chemicals used by the fertilizer company during the manufacturing process and are poisonous. One fine day, Raghuvir found out that the cement pipe has developed a crack and the waste products are accumulating on his land which is resulting in a poor yield from his land that year.

After analyzing the liability insurance concepts, determine whether the farm owner is justified in claiming compensation for the loss of income due to the cultivation of mustard seeds.

Solution:

The fertilizer factory can be held liable for the loss of income due to crop failure. The factory operators could have reasonably foreseen that the waste product was likely to accumulate on the farm owner's land if there is a breakage of the pipe. Also, the accumulation of waste products as a result of the breakage of the pipe resulted in the land becoming not useful for cultivation purposes. The factory is identified as responsible for the loss and thus Raghuvir is justified in claiming compensation for the loss from the factory.

Caselet No:8

Anil, an individual, has taken with Urban Insurance Co. Ltd, a fire policy against his residential property, for a sum assured of ₹ 3,00,000. The cover lasts till the end of September 2022. On 20th May, 2022, an accidental fire takes place and the entire building is gutted and damaged. Anil prefers a claim with the insurance company. The claim is rejected on the ground of negligence on Anil's part. Representations made by Anil to the insurer against such a rejection were not successful.

What options are left to Anil to proceed further in this regard? Discuss

Solution:

This question deals with dispute resolution between an insured and insurer. It is a case where an individual has insured a non-commercial building against fire losses for ₹3,00,000. A fire takes place and the building is completely gutted and destroyed. In other words, the property is completely lost and there is a total loss. The insurer, on receiving a claim has denied it on the ground of negligence on the part of the insured. The avenues open to Mr. Anil to resolve the disputes are discussed below:

- (i) He can approach the Consumer Disputes Redressal Forum established by a State Government in each district of a State. These forums deal with cases of a value of upto ₹ 20,00,000 rupees. However, the complaint has to be filed within two years from the date of cause of action arising. State Consumer Forums entertain claims upto ₹ 1 crore and national forum of more than ₹ 1 crore.
- (ii) The forum has the power of a civil court. The forum can order and provide relief to the complainant.

- (iii) For insurance related claims, an additional separate window has been provided in the shape of insurance ombudsman who has been empowered to look into insurance related cases from non-corporate persons when the claim amount does not exceed ₹ 20 lakhs. A person who wants to approach the ombudsman must have approached first the insurance company and must have gone through the procedure regarding complaint redressal mechanism in house by the company. The IRDAI has provided a gateway of IGMS (Integrated Grievance Management System) in its website which provides an opportunity to any individual to log in the details of the complaint or grievance and thereby is informed on the follow up action taken by the Regulator and the company.

Thereafter, the insured can approach the ombudsman if either the insurance company rejects the grievance or complaint or the insured is not satisfied with the decision of the insurer or the insurer fails to respond the complaint within one month of the submission of the grievance. No complaint can be filed with the ombudsman after one year from the date of rejection or the receipt of a final letter from the insurer. The insured should not have also filed complaint seeking legal remedies in alternate forum and those proceedings were not disposed off.

After hearing both the insurer and the insured, the ombudsman will make his recommendation within one month from the date of receipt of the complaint. This will be followed by a trial order within three months. The ombudsman's order will be binding on the insurer but if the insured was not satisfied with the order, he can choose to appeal against it. The insurer, within 15 days of the ombudsman order shall comply with it. The individual can also appeal against the award pronounced by the Ombudsman if he is not satisfied with the judgment in the Consumer forums.

In the present case, the fire accident took place on May 20, 2015 and on the insured reporting to in-house grievance facility, the insurer rejected the claim. Anil has now two choices before him. Since the loss is less than ₹ 20 lakh, he can either approach the District Consumer Forum or go to the insurance ombudsman. The claim before the Consumer Forum will be civil litigation and will be time consuming. If Anil approaches the insurance ombudsman, the settlement process is quick around three or four months and if Anil at the end of the proceedings is not satisfied with the ombudsman's award, he can seek alternative remedies, like Consumer Forum, High Court, etc. Hence, it will be prudent for Anil to go to insurance ombudsman with the complaint. The cost of litigation will also be very low before the ombudsman.

Caselet No: 9

You have been appointed as the CEO of a newly started life insurance company. Indicate how you intend to market the products of the company in the Indian market. (Your answer will have to indicate the various sources available to you to market the products and your preference to any one or more of the agencies).

Solution:

Insurance companies need to market their products because they are in competition with other insurers for the same customers, and in addition to this, the insurance company are also competing with banks and mutual fund companies too. Many times the only thing that distinguishes a company's products is price as well as the advertising message. The marketing of insurance products can be done directly by an insurance company as well as through agents or company representatives. There are various agencies available for intermediation in the marketing and sale of insurance products, agents, brokers, tied agency relationship, corporate agents, bank assurance, tele-marketing, direct sale etc.

Life Insurance policies are canvassed and sold on the basis of personal and consistent efforts on the part of individual agents. It is this category that sustains the business. All over the world, life insurance business is generated and sustained to a large extent by individual agents. The commission paid to such agents has to be market driven. Efforts are being made by the IRDAI to cut down drastically rates of commission payable to individual agents, so that this move can easily be categorized as "non-progressive". The pace of growth of life policies depends on the efforts of the individual agency force which has to be reasonably compensated.

Corporate agencies or bank assurance schemes are being pushed through vehemently by the IRDAI. The proposal to convert all bank assurance schemes to bank brokerage business does not seem to have a good start. Most of the insurance companies in India have a bank as a partner. But banks have to attend to their core business of banking and to concentrate on insurance selling may affect their business. However, the banks have the advantage of huge customer base and they can target these customers easily.

The various other sources as available to the Life Insurance Company to market products are as follows.

1. Direct mail-letters sent to consumers on the basis of addresses available from various sources like telephone directory etc.
2. Telephone contacts, on the basis of subscriber lists.
3. Television programmes.
4. Advertisements and loose insertions in main line as well as professional and trade journals.
5. Displays in conferences, seminars for specialized products.
6. Direct contact from the salaried staff.
7. Stalls in exhibitions and even solo exhibitions in remote areas with large potential customers.
8. Kiosks with touch technology.
9. Internet.

Out of above sources product selling through insurance agent networks and bancassurance are preferable.

Caselet No: 10

Rampant malpractices are bleeding public sector insurance companies and they need to restructure their activities so as to bring about change in the sector. Claims ratio is as high as 150 percent and there are too many malpractices in the health sector.

The structural inefficiencies are hampering the development of the sector. Insurers need to develop a framework for collecting statistics and databases, develop comprehensive products which are transparent and user-friendly. Health insurance should be made mandatory for all jobs and employees should be encouraged to go in for CGHS schemes as well as policies provided by insurance companies.

The health care sector is estimated at ₹ 80,000 crore and is expected to grow by ₹ 10,000 crore every year. Expenditure on health insurance is expected to touch six percent of household income up from the current two percent. Government spending accounts for less than 25 percent of expenditure on health while in developed countries the figure is in the range of 40 to 60 percent. Although the insurable population is placed at two million the potential market is placed at 315 million people. Insurance companies are keen to resolve the stalemate as they do not make money from health insurance. Another key area where business is impacted is in the area of mergers and acquisitions.

A survey on health insurance was carried out and nearly 37 percent of respondents opined that corruption could impact the valuation of a company thereby denying shareholders of a fair price. Moreover, this could also make it difficult for them to find a suitable business partner, thereby seriously impacting the growth prospects of the business.

What are the ethical aspects of claims management particularly in the case of health insurance?

What are the procedures followed by the insurance companies in close proximate claims cases?

Solution:

Ethical aspect of claims management: Claims operation involves considerable sums of money. It is not uncommon to find that some of the individual claimants are tempted, either knowingly or unknowingly, to make company's

funds due to the activities of such persons is not justifiable as far as other honest claimants are concerned who are satisfied with what is due to them in terms and conditions of the policy. Therefore, it is the responsibility of the insurance companies, as trustees of the policyholders' money, to ensure as far as possible, that moral hazard is eliminated or at least minimized.

Since loss is personal, the individual is likely to react in a subjective manner and tends to exaggerate his claim. This can be tackled without much difficulty. But, a more difficult problem is corporate clients trying to take advantage of insurance. Some of them are said to treat their insurance division as a profit centre. Therefore, it is necessary to successfully assess the moral hazard at the time of underwriting itself. When this is subsequently found, it is essential that insurance companies share this information with one another and deal with such clients in a suitable manner.

In the case of Health Insurance, most of the case settlement is done by TPA. A TPA is basically a middle man who facilitates the settlement of a health insurance claim. A TPA is appointed by the insurer. TPAs help you (the insured) process your health insurance claim using various hospital bills and documents. However, they are not responsible for claims rejection or acceptance. So as per the case a survey on health Insurance was carried out and nearly 37% respondent said that corruption is leading to high valuation of a company.

Close Proximity claims: Generally, a feeling arises that whenever a claim occurs immediately after the assumption of risk, that there is something wrong with the claim. It need not necessarily be a false claim if it occurs immediately after a policy is issued instead of occurring after a gap of 5/10 days and is deemed a pure chance event.

However, in the present scenario, there should be a standard procedure as described below to conduct an investigation and clear the doubt. Unfortunately, the insurer is in such a vulnerable position that if he settles such a claim, it may become a matter of vigilance. If he delays, he is open for criticism in the consumer forums and it may turn out to be a grievance as far as the insured is concerned.

When a claim arises within 5 days from the date of inception of the cover, the following procedure should be adopted as a matter of routine. The operational office has to appoint an investigator immediately who has to comply with the following guidelines:

- He has to visit the accident spot immediately and collect the details of persons/ vehicles involved.
- Contact police/transport authorities for obtaining the material evidence as to the nature, cause, exact date and time of the accident.
- To collect prefix and suffix cover notes issued, if any.
- To obtain the copy of the proposal submitted, and also to confirm as to whether the subject matter was inspected before the inception of the cover and if so by whom.
- To get confirmation as to whether any message has been given to operating offices by the development officers/agent immediately after the assumption of the cover.

Caselet No:11

Barun Ojha, as a bachelor, took a life policy "Poorna Suraksha" from ABC Life and named his father Tarun as his nominee. During the tenure of the policy, he married Sujata Jha, but he did not change the nomination in his policy. Subsequently, Barun died of a heart attack when the policy was still in force. His wife Sujata lodged a claim with the insurance company; simultaneously Barun's father Tarun also filed a claim as the official nominee of the deceased. Insurance company found the claim under the policy justified but does not want a confrontation with the two parties staking the claim, as they do not want to take any risk of being questioned for the wrong payment from their behalf if they make payment to any one of them. They wanted that both the parties should amicably settle the issue off the court or get it settled through a legal process before it can make any payment to any one of them.

What do you mean by Nomination? In which case the provisions of Section 39 of Insurance Act, 1938 do not

apply. Do you think that the stand taken by the insurer is correct in the circumstances of the above case?

Solution:

Nomination of Life Insurance Policies is a process whereby if the Life Insured dies within the policy tenure, the Insurer would pay out the proceeds of that policy to the Nominee. The process of selecting that candidate or Nominee is called Nomination. The policy holder has to select a nominee to the life insurance policy at the time of purchase. It works similar to a nominee whom a bank account holder should appoint to receive the money in the bank account in case of the account holder's death.

The provisions of Section 39 of Insurance Act, 1938 are not applicable to any life insurance policy to which Section 6 of Married Women's Property Act, 1874 applies or has at any time applied except where before or after Insurance Laws (Amendment) 2014, a nomination is made in favour of spouse or children or spouse and children whether or not on the face of the Policy it is mentioned that it is made under Section 39 of Insurance Act, 1938. Where nomination is intended to be made to spouse or children or spouse and children under Section 6 of Married Women's Property Act, 1874, it should be specifically mentioned on the Policy. In such a case only, the provisions of Section 39 of Insurance Act, 1938 will not apply.

The stand taken by the insurer is not correct.

The policyholder is entitled to authorize an individual to receive policy monies. The insurance company is duty bound to make the payment to the nominee as mentioned in the policy. There is no need for any apprehension on the part of the insurer that its action of making payment to the nominee would be questioned.

Further simply because the nominee receives the policy monies the interest of anyone who has the legal right to receive the money does not get affected as the mere nomination does not have the effect of conferring on the nominee any beneficial interest in the amount payable under the life insurance policy on the death of the assured. The nomination only indicates the hand which is authorized to receive the amount, on the payment of which the insurer gets a valid discharge of its liability under the policy. The amount, however, can be claimed by the heirs of the assured in accordance with the law of succession governing them. The nominee only receives the claim amount as a trustee.

Caselet No:12

On 21-02-2022 a sale deed was executed between Srivastava and Kulwant and Srivastava sold his house to Kulwant and the ownership was transferred by registration in the name of Kulwant. Just before selling the property Srivastava had taken a fire insurance cover for his house taken with insurer XYZ Ltd. and the period of insurance was 18-8-2021 to 17-8-2022. Kulwant and Srivastava came to mutual understanding and according to that 75% of the sale money was paid by the former to the latter at the time of execution of the sale deed and the balance was to be given within one year, which was agreed by means of a promissory note executed by Kulwant in favour of Srivastava.

On execution of the sale deed, Kulwant obtained a fire insurance cover for the house in his name from his insurer ABC General Insurance Co. A fire accident took place on 13-5-2022 in which the whole house was destroyed by fire.

When Kulwant filed a claim for the loss of the house with his insurer ABC General Insurance Co. and after insurance surveyor investigated the whole case, the insurer agreed to pay the loss to the extent of 75% of the value of the house only saying that as on the date of loss Kulwant has not paid 25% of the value of the house to Srivastava, so the claim cannot be paid to that extent and that the same has to be recovered by Srivastava under his policy.

Define the principle of Insurable Interest and also explain how the same ensure legality to an insurance contract. Discuss the eligibility of claim recovery under both the policies in the above case.

Solution:

A person is said to possess an insurable interest in a property if he has a legal relationship with the said property by which he would stand to lose financially if the property is lost or destroyed. The principle of insurable interest adds legal validity to an insurance contract without which such contracts would be wagering or gambling in nature according to the Indian Contract Act 1872. Presence of insurable interest prevents fraudulent practices. In the absence of insurable interest, an unconcerned person can purchase policies on someone else's property and inflict loss on it deliberately to get the proceeds of the insurance settlement. Insurable interest provides the right to secure insurance and claim compensation to the insured based on the principle of indemnity. For example, people have insurable interests in their own homes and vehicles, but not in their neighbours' homes and vehicles, and almost certainly not those of strangers.

An insurance contract must meet four conditions in order to be legally valid: it must be for a legal purpose; the parties must have a legal capacity to contract; there must be evidence of a meeting of minds between the insurer and the insured; and there must be a payment or consideration.

As long as the sale deed has been affected by Srivastava in favour of Kulwant evidencing the sale of the house by the former to the latter and the ownership transferred in his name, the insurable interest is said to exist with Kulwant. The insurer of the policy taken by Kulwant is liable to pay for the loss in full subject to the admissibility of the claim under the policy and subject to other conditions of the policy. Non-payment of 25% of the value of the house by Kulwant to Srivastava will not affect the former's claim under the policy with his insurer. Payment of the said 25% balance by Kulwant to Srivastava is guaranteed by means of a separate promissory note, which will not in any way interfere with the settlement of the claim of Kulwant under his insurance policy. Payment arrangement between the parties is of no concern of the insurer. As long as the house has been registered in the name of the new purchaser by virtue of the sale deed, there will be no liability under the policy taken by Srivastava and no benefit under the said policy can also accrue to the new purchaser as transfer of a fire insurance is not automatic unless the insurer is intimated of the transfer and request made transferring the insurance in the name of the purchaser and acceptance of change and confirmation of cover in favour of the new owner is confirmed by the insurer.

Caselet No:13

Savita got her Honda City car insured under Motor Comprehensive policy from ABC General Insurance Co. for the period from 1-6-2021 to 31-5-2022 for a value of ₹ 3.75 lakh. On 15-10-2021 she sold the car to Gautam. The car met with an accident on 10-12-2021 and was extensively damaged. A pedestrian was also injured in the accident. The repair to the car had cost Gautam ₹ 1,39,500 and he filed the claim with the insurance company. The pedestrian also claimed damages for the injury.

(i) Discuss the admissibility of the claims.

(ii) What are the legal aspects of third-party motor insurance? Are there any exemptions to the concept of compulsory third party insurance? Discuss.

Solution:

(i) Discuss the admissibility of the claims.

In this case, the insured Savita sold the vehicle to Gautam and it is presumed that the insurance is not got transferred to the purchaser. The insurance can be transferred to the new purchaser on specific request to the insurer. As this is not done, the insurance company is not liable for the claim. Thus, the own damage claim of ₹ 1,39,500 is not admissible. However, if the insurance has been duly transferred to the purchaser, then the claim of ₹ 1,39,500 as per the rules would be admissible and can be paid to Gautam.

However, as regards the legal liability of third party i.e., the pedestrian who was injured, the insurers will be liable for the legal liability to the pedestrian as per the order of the court as the third-party insurance is deemed to be transferred to the purchaser.

(ii) What are the legal aspects of third-party motor insurance? Are there any exemptions to the concept of compulsory third party insurance? Discuss.

The legal aspects of third-party motor insurance are now codified under the Motor Vehicles Act, 1988. The provisions are the pivot around which the entire insurance aspect of motor transport hinges. All the sections of the Act are inter-related and have to be examined thoroughly. Section 146 of Motor Vehicles Act prescribes the necessity for insurance against third party risks - no person can use a motor vehicle in a public place unless there is in force in relation to that motor vehicle, by that person or another, a policy of insurance. A vehicle carrying or meant to carry hazardous or dangerous goods should have a policy under the Public Liability Insurance Act, 1991 also.

Section 146 seeks to protect the members of the public travelling in vehicles or using the roads (public places) from the financial liability caused by risk attendant upon the use of the motor vehicle. The third-party (TP) car cover serves to protect the insured from claims arising from a third party, when the insured person's vehicle is at fault. This cover will pay for any fiscal liability that arises out of the accident. As per the rules, no vehicle can run on the road without TP insurance. Based on the capacity of the car or two-wheeler, the third-part premium rate is fixed and notified by IRDAI at the start of a financial year. Elsewhere, an Own Damage (OD) or a Comprehensive Policy cover covers loss or damage to the vehicle insured in addition to all the covers provided by a third-party policy.

For new buyers, there will be three options to choose from - Buy a long-term package, a bundled package, or stick to a standalone TP cover. Here is a closer look at each of these options:

Option1. Long-Term Package Cover: (TP=3 Years Plus OD=3 Years)

Such a cover will offer both motor third-party insurance and own damage insurance for three years or five years, as the case may be.

Option2. Bundled Cover: (TP=3 Years Plus OD=1 Years)

Such a cover will offer a three-year or five-year term (as applicable) for the third-party component and a one-year term for Own Damage.

Option3. Standalone Third-Party Only cover: (TP=3 Years without OD)

This option always existed for anyone buying motor insurance. The only change is that now one has to purchase TP for 3 or 5 years, as the case may be.

Exemptions: The provisions relating to compulsory for third party insurance do not apply to any vehicle owned by the Central Govt. or State Govt. and used for Govt. purposes unconnected to any commercial enterprises. The Govt. has been given the power to grant an exemption to any vehicle owned by

- a) The Central Govt. or the State Govt. if the vehicle is used for Govt. purposes unconnected with any commercial activity;
- b) Any local authority
- c) Any state transport undertaking.

Caselet No:14

Southern Ltd. carries a large volume of stock. It has secured fire policies to cover the stocks from three general insurers, the details of which are as under:

Insurer	Sum Assured
M Insurance Co. Ltd.	₹ 75,00,000
N Insurance Co. Ltd.	₹ 50,00,000
S Insurance Co. Ltd.	₹ 25,00,000

On 31st January, 2015, when a fire took place the value of the actual stocks in the godown, on the basis of the company's accounts was ₹ 1,60,00,000. Salvage gained was ₹ 1,50,000 which the company recovered and realised by way of sales.

Determine the individual liability of each of the insurers on the premise that the claim was admitted by the companies.

Solution:

This question calls for an inter-say allocation of liabilities amount different insures have insured. The main idea of an insurance contract is to indemnify the insured, against losses. The insured cannot gain out of a loss and hence the claim will have to be settled on pro-rata basis by all the three insurers collectively as per their sum insured liability ratios.

Since there are three insurers, the liability to settled claims has to be distributed ratably. The claim amount has to be calculated applying the 'SUE' clause in the order namely:

S – Salvage

U – Under-insurance

E – Excess

The distribution will be as under:

The actual stocks at the time of loss were ₹ 1,60,00,000.

Insurance covers available are ₹ 75 lakh + ₹ 25 lakh + ₹ 50 lakh = ₹ 1.50 crore.

There is under insurance.

Loss ₹ 1,60,00,000

Less salvage ₹ 1,50,000

₹ 1,58,50,000

The loss has therefore to be limited to the maximum of the same assured under the policies.

Loss limited to ₹ 1,50,00,000

Less 'Salvage' ₹ 1,50,000

Maximum Allowable ₹ 1,48,50,000

to be distributed among M, N & S in the ratio of 3:2:1 viz. after adjusting for underinsurance clause.

The stocks were insured only to the value of ₹ 1,50,00,000 i.e., upto a value of 93.75%. Hence, the amount payable is to be adjusted for underinsurance after adjustment of salvage, and Excess of ₹ 10,000.

Hence 93.75% of ₹ 1,48,50,000 = 1,39,21,875 which is to be divided amongst the three insurers in rateable proportion after excess adjustment.

Actual Total Loss = ₹ 1,60,00,000

Loss limited to = ₹ 1,50,00,000

Less (-) 'Salvage' = ₹ 1,50,00

₹ 1,48,50,000

Less (-) Underinsurance (6.25%) = ₹ 9,28,125

= ₹ 1,39,21,875

Less (-) Mandatory Excess* = ₹ 10,000

(* 5% of every claim subject to a minimum of ₹10,000 is taken as mandatory excess)

Balance Amount of loss payable = ₹ 1,39,11,875

Loss Payable ₹ 1,39,11,875 to be distributed among M, N & S in the ratio of 3:2:1

(Based on the respective contribution of M, N and S in the Sum Assured)

M Insurance Co. Ltd., 3/6 of 1,39,11,875 or ₹ 69,55,938

N Insurance Co. Ltd., 2/6 of 1,39,11,875 or ₹ 46,37,292

S Insurance Co. Ltd., 1/6 of 1,39,11,875 or ₹ 23,18,645

Caselet No:15

What do you understand by condition of average' in a fire insurance contract? How does this operate? Explain.

Solution:

The doctrine of average - or average clause is always applied in indemnity policies primarily in property claims - fire and engineering. At the time of taking the policy the insured has to consider the value of the risk or subject matter of insurance-sum insured. He must ensure that the adequate value has been declared and insured. If, at the time of loss, it is found that the sum insured is less than the actual value of the subject matter, then the proportionate or ratable portion of the claims would be payable. The insured would therefore be his own insurer for the difference.

Insurance Contracts are strictly Contracts of indemnity. On the happening of an Insured event- Fire, the Insurer pays for the sum Insured or Market Value of the property whichever is less.

Thus, if the sum insured of a property is ₹ 30 Lacs and the Market Value of the same on the day of Fire was ₹ 35 lacs and if the property was damaged by fire to the extent of ₹ 28 lacs, than the liability of the Insurance Company

$$\text{would be} = \frac{\text{Sum Insured}}{\text{Market Value}} \times \text{Loss}$$

$$\text{i.e.,} = (3000000/3500000) \times 2800000 = ₹ 24 \text{ Lacs}$$

The owner of the property would be liable for the remaining Rs. 4 lacs and would be considered to be its own Insurer for the balance.

Caselet No:16

Subhash is running a business of footwear and insured all his factory machinery on a market value basis with three different insurers as per details below:

Insurer	Policy taken Sum Insured	₹ in Lakhs
A	Standard Fire and Special Perils Policy.	31.25
B	Standard Fire and Special Perils Policy excluding flood cover.	18.75
C	Standard Fire and Special Perils Policy Excluding Riot and Strike cover.	12.50

Recently there was a heavy shower which resulted in heavy flood in the area, ₹ 10 lakhs worth of the machinery was damaged. How do insurers share this loss?

Solution:

The policy issued by the insurer B does not cover the flood peril. Hence the same will not contribute to the loss.

On the date of loss, the market value of the insured asset is ₹ 62.50 lakh. As against this, the aggregate of the sum insured under the policies issued by insurers A and C is only ₹ 43.75 lakh. The balance ₹ 18.75 lakh are deemed to be self-insured by Subhash. Accordingly, all they will share the loss of 10 lakh as under:

Insurer A pays: $31.25/62.50 \times 10 = ₹ 5.0$ lacs

Insurer C pays: $12.5/62.50 \times 10 = ₹ 2.0$ lacs

Subhash bears: $18.75/62.50 \times 10 = ₹ 3.0$ lacs

Caselet No: 17

The Term, whole life, endowment, annuity policies or the combination of policies are available in the market. The best policy is the one that best meets your financial needs. You have to select the policy according to your needs.

Suggest suitable life insurance policies for the given situations:

- You are at the age of 25. You just joined an organization. You are recently married. Now you cannot spend more on life insurance.
- You are the only earning member in your family. You purchased a flat by taking a loan from housing finance. As long as you are there you can pay EMIs regularly. You want to retain the house for your family members even in your absence.
- You are at the beginning of career; you want to combine both insurance and saving. But the combination of this saving and insurance is costly. Right now, you cannot invest much, having dependents and you want to invest later after settling in the career.
- You want to leave an estate to your family after you. But you cannot pay the premiums after retirement. You are undisciplined in your saving habits and you are not financially savvy.
- You want to set up a saving stream, beyond term plans.

Solution:

- For these situations, the suggested best policy is Term Insurance Policy. These plans offer life insurance cover for the specific number of years, at least cost. The premium of Term Insurance is comparatively low at the age of 25. Since the entire premium goes towards the cost of insurance, there is only risk cover and no saving element is involved.
- The best policy for this situation is the Mortgage Redemption Insurance policy. These plans offer life insurance cover for the specific number of years like till the loan is cleared (or on death, an outstanding loan is covered) at the least cost.
- The best policy for this situation is the Convertible Term insurance policy. This plan offers life insurance cover for the specific number of years, and at the same time it also facilitates to convert this policy into endowment policy (when your income increases) which includes saving element.
- The best policy for this situation is Limited Payment Whole Life insurance policy. In this plan, the policy remains in full force for the whole of life, but premiums are payable for a limited number of years only, after which the policy becomes paid up for its full-face amount. The premium - paying period may be expressed as a set number of years or to a specified age.
- The best plan for this situation is Endowment plans or money - back plans. These policies promise not only the policy face amount on the death of the insured during a fixed term of years but also the full-face amount at the end of the term if the insured survives the term.

Exercise

Self-Assessment Questions

1. Distinguish between a pure risk and speculative risk.
2. Discuss the concept of Insurance with illustration.
3. Explain the terms hazard and perils. Distinguish between moral hazard and physical hazard.
4. What are the important functions of insurance?
5. Write a note on broad classification of Insurance.
6. What are the contingencies covered under the life insurance contract?
7. What are the modes available to pay the premiums?
8. What is the difference between an annual premium and instalment premiums?
9. What do you mean by embedded options (other benefits)? Name any five.
10. What do you mean by riders?
11. Name the basic Life insurance plans. Explain those in details.
12. Explain the Universal Variable Life Insurance Plan and what are the additional facilities available to the insured under this plan.
13. “Unit linked plans are becoming more and more popular in the Indian Market” – Explain
14. What are maritime perils?
15. What is the difference between Marine Cargo Policies and Marine hull policies?
16. Why are marine cargo policies freely assignable and not marine hull policies?
17. Discuss broadly the scope of aviation insurance.
18. What are the general exclusions under Inland Transit Insurance by Rail or Road policy?
19. What is the objective of fire insurance?
20. What is the role of Fire Insurance?
21. Explain the scope of Fire Policy.
22. What are the perils covered under Standard Fire Policy?
23. What do you mean by Public Liability? What are the covers available under Public Liability insurance?
24. Write short note on Contractual Liability and Professional Indemnity.
25. What do you mean by insurance? What are the types of insurances fall under this category? List.
26. Explain the Social Insurance Schemes available in India.
27. What are the exclusions under a Burglary Insurance Policy?
28. List out the engineering Insurances available in India.
29. Explain Mediclaim Insurance Policy.
30. Explain Third Party Liability under Motor Insurance Policy.

Multiple Choice Questions

1. Choose the correct Option
Statement A: Commercial contracts are subject to the principle of “Caveat Emptor”
Statement B: Insurance contracts are also subject to the principle of “Caveat Emptor”
(a) Both statements are correct

- (b) Both statements are wrong
 - (c) **Statement A is correct**
 - (d) Statement B is correct
2. Insurable interest means
- Statement A: Legal right to insure.
- Statement B: Have suffered financial loss.
- (a) **Both statements are correct**
 - (b) Both statements are wrong
 - (c) Statement A is correct
 - (d) Statement B is correct
3. One of the fundamental principles of life insurance is
- (a) There is an insurer & policyholder
 - (b) Utmost good faith
 - (c) Insurable interest
 - (d) **Both b & c**
4. Facts which need to be disclosed.
- (a) Facts of common knowledge
 - (b) Facts which lessen the risks
 - (c) Facts which everyone is supposed to know in general
 - (d) **Family History**
5. Non-disclosure/Misrepresentation/Concealment of _____ information makes contract voidable. (**Material/ Immaterial**)
- Please answer the following: (True/False)
- 6. A person has insurable interest in his own life. **TRUE**
 - 7. Parents have insurable interest in the life of child. **FALSE**
 - 8. A creditor has unlimited insurable interest in the life of debtor. **FALSE**
 - 9. An employer has an insurable interest in the life of his employees to the extent of the value of his services. **TRUE**
10. The duty of disclosure of material facts arises in life insurance:
- (a) only during the proposal stage
 - (b) Only during the policy period if there is a change in risk
 - (c) Only at the time of renewal
 - (d) **All of the above**
11. It is the duty of the assured to make a full disclosure to the underwriter without being asked. Discuss.
- Yes, the person should disclose to the insurance company as per the principle of utmost good faith otherwise at the time claim the insurance can refuse to make the payment.
12. Is it essential that insurable interest should be present in every insurance contract? If yes, explain.
- No, you cannot take such policy because you have neither legal relationship nor you will lose financially in case of any mis-happening with Mr Bachan life.

Managing Risk in Insurance Business

8

This Module includes:

- 8.1 Concept of Risk in Insurance Business.**
- 8.2 Factors affecting Risk Profile of Insurers.**
- 8.3 Kinds of Risks in Insurance-Portfolio Risk, Solvency Risk, Marketing Risk, Market Risk, Operational Risk and Other Risks.**
- 8.4 Risk-based Capital, Types of Risk-based Capital-Current Risks, Special Risks, Non-technical Risks.**
- 8.5 Risk Management Process in Insurance.**
- 8.6 Role of an Actuary in Insurance Business.**

Managing Risk in Insurance Business

SLOB Mapped against the Module

To equip students with application-oriented knowledge to design a risk management program and various risk control and mitigation measures in insurance business.(CMLO 2a, b)

Module Learning Objectives

This chapter would help in understanding:

Insurance Risk Management is the assessment and quantification of the likelihood and financial impact of events that may occur in the customer's world that require settlement by the insurer, and the ability to spread the risk of these events occurring across other insurance underwriters in the market.

- ◉ Different Types of Risks in the Insurance Business.
- ◉ Factors affecting the Risks to Insurance Companies.
- ◉ Risk Management Process of the Insurance Business.
- ◉ Different Types of Risks in the Insurance Business like Portfolio Risk, Solvency Risk, Marketing Risk, Market Risk, Operational Risk and Other Risks and their meaning.
- ◉ Role Actuary in Insurance Business.

Businesses face decisions about risk nearly every day. From equipment purchases to new hires to acquisitions and closures, each business decision carries an element of risk. The key aspect of making the right business decisions comes from determining the balance between risk and reward. Companies that expose themselves to high risks with minimal rewards can gamble themselves right out of business. At the other extreme, firms that play it too safe can miss out on growth opportunities they need to survive and thrive in a competitive marketplace.

Risk is inherent or a facet of every human endeavour or aspect of life. From the moment we get up in the morning, drive or take public transportation to get to school or to work until we get back into our beds (and perhaps even afterwards), we are exposed to risks of different degrees. What makes the study of risk fascinating is that while some of this-risk bearing may not be completely voluntary, we seek out some risks on our own (speeding on the highways or gambling, for instance) and enjoy them. While some of these risks may seem trivial, others make a significant difference in the way we live our lives. On a loftier note, it can be argued that every major advance in human civilization, from the caveman's invention of tools to gene therapy, has been made possible because someone was willing to take a risk and challenge the status quo.

Risk is the potential of loss (an undesirable outcome, however not necessarily so) resulting from a given action, activity and/or inaction. The notion implies that a choice having an influence on the outcome sometimes exists (or existed). Potential losses themselves may also be called "risks". Any human endeavour carries some risk, but some are much riskier than others. Risk can be defined in seven different ways –

- The probability of something happening multiplied by the resulting cost or benefit if it does.
- The probability or threat of quantifiable damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through pre-emptive action.

The insurance industry risk management is at the top of the agenda.

Pressure is mounting on insurers to implement and professionalize risk management practices. Needless to say, supervisors are encouraging risk management information to be more widely spread throughout organizations in order for it to be fully integrated into the day-to-day management of the business. Many companies are at this moment upgrading their risk management systems.

To improve standards of risk assessment, should be regarded as an opportunity for insurance companies to improve their risk management systems and will allow to benefit from the risk management efforts in the context of supervision.

The main benefit of Risk Management for Insurers is that it emphasizes the practical risk management concepts, rather than technical calculations and detailed theory, making it easier for a layman to understand.

Concept of Risk in Insurance Business

8.1

Life is inherently risky and it would be impossible to protect ourselves against every potential risk we. But if we are going to work hard, put money aside and invest it in things that are important or improve our life, it makes sense to protect those things as best we can.

Managing risk involves a little bit of thought and planning to identify where we might be vulnerable to loss or damage. To protect property, but we can also protect ourselves from the impact of a natural disaster or if an unexpected event happens.

Most of us engage in simple risk management strategies every day.

We drive carefully, put our salaries straight into a bank account, lock our house or car when we leave them, and keep our wallets, handbags and mobile phones with us when we go to a cafe or a park.

Insurance is an important component of risk management, but it's not the only one.

Before we make the decision to buy insurance, it makes sense to review our own risks and work out how to reduce the chance of them occurring and if they do occur, how to reduce the impact on our life.

For example, we can reduce the risk of bushfire by making sure to have cleared flammable materials away from our house.

We can then take out insurance cover so that we are not risking severe financial consequences in the unlikely event that our house is damaged or destroyed by bushfire. We are only protected once we pay premium and, in some circumstances, the policy may not take effect for a predetermined time.

Risk in Insurance Terms:

In insurance terms, risk is the chance something harmful or unexpected could happen.

This might involve the loss, theft, or damage of valuable property and belongings, or it may involve someone being injured.

Insurers assess and price various risks to work out how much they would need to pay out if a policyholder suffered a loss for something covered by the policy. This helps the insurer determine the amount (Premium) to charge for Insurance.

To be able to put a financial value on a risk, insurers calculate the probability that the insured item or property might be accidentally lost, stolen, damaged or destroyed, how often this might occur and how much it would cost to repair or replace.

By pricing risk, insurers know how much money they need to reserve to pay claims.

Risk Management & Insurance Planning:

Risk is uncertainty regarding occurrence of loss, deviation from expected outcome. There are 2 types of risks:

- Objective and
- Subjective risks.

Objective is a relative variation of actual loss from expected loss. As number of exposures increase, insurer can predict future loss experience more accurately relying on the law of large numbers and measuring the standard deviation. Subject risk, as the name suggest is uncertainty based on a state of mind or mental condition, as such difficult to measure.

Further, Risks can be classified into Personal risk, Property risk, Liability risk and Speculative risk. Personal risk is the risk to one's security and safety. For example, death, illness, disability. Property risk is the risk of damage to property such as fire, floods etc. Liability risk is the risk of someone suing claiming damages. In a Speculative risk, the outcome can be a loss or gain. For example, investment in equity stocks.

Insurance Planning:

People buy Insurance to take care of *various risks that can cause financial loss*. Insurance mitigates risks by transferring risk from an individual to a larger group of people.

The specific reasons why people buy insurance are:

- To maintain their existing lifestyle after the death of a loved one (Life insurance)
- To ensure continuity of income (disability insurance)
- To pay medical bills (Medical Insurance)
- To replace or repair a tangible item (Home and Automobile)

The Practitioner should help the client in the identifying those risks and construct a plan of action to provide adequate insurance against the risks.

Insurable risks are: Business Risks, Professional Liabilities, Legal Liabilities, Damage to Automobiles, Damage / theft of movable assets, Untimely Death, Disability, Poor Health, Damage to immovable property.

Factors affecting Risk Profile of Insurers

8.2

Centuries ago, merchants were encouraged to take hazardous journeys by the existence of insurance: if they took the risk and disaster struck, then they would not be ruined if they were insured. The same social advantage is still there today. The exciting ventures have changed somewhat, but the ability to insure against various perils still enables individuals and companies to take on risks that they would not otherwise undertake.

Policyholders reduce uncertainty by passing risks to an insurance company. It is not surprising, therefore, that insurance companies themselves are subject to risk and uncertainty.

Most of the major uncertainties centre around how many claims there will be and how much the insurer will have to pay to settle them. These uncertainties have a big influence on how much the insurer will charge for the protection provided and how much the insurer needs to reserve for future claims payments. Other risks to the insurer include: recovery of fixed expenses, failure of other parties (e.g., brokers or reinsurers), falls in asset values and the insurance cycle. The size of the free reserves will influence the ability of the insurer to cope up with these risks as will reinsurance cover and the investment policy.

Risk: There are many different definitions of risk, some of them are given below:

Project Risk Analysis & Management Guide (PRAM Guide, 1997) defines risk as “an uncertain event or set of circumstances which, should it occur, will have an effect on achievement of objectives”.

Risk is a concept that denotes a potential negative impact to an asset or some characteristic of value that may arise from some present process or future event. In everyday usage, “Risk” is often used synonymously with the probability of a known loss.

Risk is the cumulative effect of the chances of uncertain occurrences, which will adversely affect project objectives. It is the degree of exposure to negative events and their probable consequences.

Key Components of Risk: In modelling risk, actuaries pay special attention to the following key components of risk for each peril. The modelling tools describe later will need to reflect the following components of risk resulting from each peril.

Volatility: Volatility refers to the amount of uncertainty or risk about the size of changes in a security's value.

A higher volatility means that a security's value can potentially be spread out over a larger range of values. A lower volatility means that a security's value does not fluctuate dramatically, but changes in value at a steady pace over a period of time.

In general insurance, for some types of business the size of possible claims covers a very wide range, and there is consequent uncertainty as to whether the claims that have actually occurred can properly be regarded as typical of what might be expected to occur.

The variance of aggregate claim amounts will increase if there is non-independence of risks.

Therefore, accumulations of risk will increase the uncertainty relating to the variability in claim size.

The level of random variation will be higher, the smaller the portfolio of business. This problem is therefore greater for small companies (or small classes of business) where we would expect a larger variation from year to year.

Uncertainty: Uncertainty is the inability to predict the future with confidence. Because of the presence of uncertainty, we need to consider the effects of possible deviations from the projected figures. The greater the uncertainty, the greater the risk.

The uncertainties faced by a general insurer can be considered under two main headings:

- Uncertainty as to the outcome of the business already written.
- Uncertainty as to the premiums the insurer needs to charge in future to achieve a desired financial result.

Business Already Written: At any given time, an insurer will have claims that have been reported but have not yet been settled, and there will be uncertainty as to when they will be settled and the amount for which they will be settled. Even for the claims that have been recorded as having been settled, there is a risk that they will be reopened and further payments will have to be made. In addition, there will be claims that have been incurred but of which the insurer is unaware because they have not yet been reported; there will be inevitable uncertainty as to the number of such claims, their costs and the timing of the payments.

Premium Rates Required in the Future: The natural starting point for assessing the premium rates that an insurer needs to charge in future is an assessment of the adequacy of the rates that have been charged in the past. This is subject to all the uncertainties that affect the measurement of the financial outcome of the existing business, together with further uncertainties as to:

- The extent to which past experience will be relevant to the future.
- The extent of any adjustments that need to be made to the experience of the recent past to allow for exceptional claims that have occurred or failed to occur.
- Possible changes in assumptions required as projections have to extend even further into the future.
- The appropriate choice of rating factors and premium relativities, i.e., the relationships between the premiums quoted for different rating cells.

Risk as we have seen is all about losses. In the absence of possibility of loss there would be no risk thus it is important to know about the factors, which cause or contribute towards the occurrence of loss or extent of loss. There are two such factors and these are “Perils” and “Hazards”. The terms “peril” and “hazard” should not be confused with the concept of risk discussed earlier. Let us first consider the meaning of peril.

Peril:

Perils cause the deviation in events from those that we expect. They are the immediate cause of loss. Their very existence ensures that we are surrounded by risk for example flood, death, sickness, theft, terrorism etc. and these are discussed below:

Natural Perils:

Our very existence on the planet earth ensures that we live with risk as the almighty in all his wisdom has although gifted nature with many sources of energy unbalance or disturbances beyond limits take the form of risk called perils, which can lead to unexpected losses. There are unexpected natural phenomena, which year in and year out cause untold misery, loss of life and property. The most recent example in the Indian context being the Gujarat Earthquake on Jan 26th 2001, which caused widespread devastation. Nearly 20,000 lives were lost, numerous villages and localities were razed to the ground and lakh were rendered homeless. There is no stopping the fury of nature and the havoc that it plays with mankind. Volcanic eruptions, fire due to lightning, landslides, cyclones,

hurricanes, storms, floods, the vagaries of weather, unseasonal rainfall and prolonged dry spells, hailstorms are some other examples of natural risks that can cause losses. These perils are also called Act of God perils, and there is little that mankind can do to stop them, he can only learn to live with them and devise means to lessen the negative impact.

A global survey of losses for the year 2006 conducted by Sigma estimated the insured losses due to natural calamities at 14.8 billion dollars and out of this 12.6 billion dollars was on account of floods alone (while looking at these figures we have to bear in mind that these are only for insured losses, the actual figure may be actually much more). 40% of the lives lost during the year in catastrophes were on account of natural disasters with a major contribution being the lives lost due to floods in India & Bangladesh in and Southern Africa in February'2000 and Tsunami in 2005-06.

Man Made Perils:

Then there are the manmade perils, which cause loss, these are an outcome of our society and are the violent actions and unethical practices of people, which result in deviation from the expected. There are many of these but only a few are being discussed to illustrate their significance.

- (a) **Theft:** Pages of your daily newspaper provides a fair idea about this rampant malady in our society. The entire page is full of incidents of thefts of motorcycles, daylight robberies and burglaries loss to human life by accident, terrorism, enmity, adulteration murder etc. The figure for the exact extent of losses due to such incidents is not available for India but a study done by the FBI in USA way back in 1974 estimated that such losses in material terms alone exceeded \$3 billion that year. Not only outsiders but insiders also steal. Employees steal tools, equipments and goods from their employers worth millions every year.
- (b) **Riots, Strikes and Malicious Damage:** These are perils, which every property owner faces. During Riots miscreants' damage, Public and Private property, loot stores, inflict injury or death to innocent people and the police personnel and bring business to a standstill causing untold damage. Similarly strikes sometimes turn violent resulting in damage to life and property. Strikes also result in loss of production causing huge monetary losses, which may even result in bankruptcy. Vandals target unoccupied houses when the proprietors are on vacation and damage the property, in some cases setting it on fire. Cars parked in the street are also often vandalized.
- (c) **Accidents:** Accidents are caused by people and they cause injury to themselves or to others and also damage to property. Automobile accidents alone contribute the maximum share of losses due to this peril. As per WHO study each year "Road Traffics" take the lives of 1.2 million men, women & children around the world and seriously injure millions more. In addition to automobile accidents, accidents due to carelessness of humans result in huge losses to property and life. A carelessly dropped cigarette can lead to fire resulting in heavy losses to property and even life. Thousands of workers lose their lives and limbs every year in industrial accidents caused by human error or carelessness.

In one of the reports by Sigma for the year 2006 puts the global figure of manmade insured losses at 5 billion dollars with 50% being attributed to Industrial fires. 11700 people lost their lives and out of these 65% were killed in transport related disasters (which appreciating the extent of losses. We must remember that Sigmas report is only a study of major disasters and only 350 events during the year have been evaluated / studied. The figures therefore just give an idea whereas the ground reality may be even more alarming).

Economic Perils: The third category of Perils or cause of Risk is economic in nature and the examples of this type of Risk are Depression, Inflation, Local fluctuations and the instability of Industrial firms.

Depression in the market leads to low production levels and an increase in unemployment. Low production results in reduced profits or losses for business houses whereas unemployment stops the income of individuals causing

mental and physical suffering. When Inflation is there in the economy the buying power of money declines and the real value of savings and income is reduced. People whose livelihood is based on fixed income such as pensioners (Retired persons) during such periods are the hardest hit and may find it impossible to make both ends meet.

This fluctuation in the general economy can cause unfavourable deviation from the expectations and create risks for both Industries firms as well as individuals. Sometimes it so happens that even though the general economic condition in the country is stable there are some areas, which may experience recession. These are known as local fluctuations and can effect the Individuals or the business houses in the same manner as the general fluctuation in economy i.e. Depression & Inflation. When particular area is effected the value of investments made in the area declines and jobs are also lost. At time it is the individual firms which are to blame. The owners lose part or whole of their investment and workers lose their jobs. There are many towns and communities, which are dependent on one single Industry for their well being and when this Industry fails or decides to shift operation the entire town or community is exposed to risk.

Hazard:

Factors, which may influence the outcome, are referred to as hazards. These hazards are not themselves the cause of the loss, but they can increase or decrease the effect should a peril operate. The consideration of hazard is important when an insurance company is deciding whether or not it should insure some risk and what premium to charge. So a hazard is a condition that creates or increases the chance of loss. There are three major types of hazards: Hazard can be physical or moral or Morale.

Physical hazard:

Physical hazard relates to the physical characteristics of the risk, such as the nature of construction of a building, security protection at a shop or factory, or the proximity of houses to a riverbank. Therefore, a physical hazard is a physical condition that increases the chances of loss. Thus, if a person owns an older building with defective wiring, the defective wiring is a physical hazard that increases the chance of a fire. Another example of physical hazard is a slippery road after the rains. If a motorist loses control of his car on a slippery road and collides with another motorist, the slippery road is a physical hazard while collision is the peril, or cause of loss.

Morale hazard:

This usually refers to the attitude of the insured person. Morale hazard is defined as carelessness or indifference to a loss because of the existence of insurance. The very presence of insurance causes some insurers to be careless about protecting their property, and the chance of loss is thereby increased. For example, many motorists know their cars are insured and, consequently, they are not too concerned about the possibility of loss through theft. Their lack of concern will often lead them to leave their cars unlocked. The chance of a loss by theft is thereby increased because of the existence of insurance.

Morale hazard should not be confused with moral hazard. Morale hazard refers to an Insured who is simply careless about protecting his property because the property is insured against loss.

Moral hazard is more serious since it involves unethical or immoral behaviour by insurers who seek their own financial gain at the expense of insurers and other policy owners. Insurers attempt to control both moral and morale hazards by careful underwriting and by various policy provisions, such as compulsory excess, waiting periods, exclusions, and exceptions.

When used in conjunction with peril and hazard we find that risk means the likelihood that the hazard will indeed cause the peril to operate and cause the loss. For example, if the hazard is old electrical wiring prone to shorting and causing sparks, and the peril is fire, then the risk, is the likelihood that the wiring will indeed be a cause of fire.

Kinds of Risks in Insurance – Portfolio Risk, Solvency Risk, Marketing Risk, Market Risk, Operational Risk and Other Risks

8.3

Underwriting refers to the process that a large financial service provider (bank, insurer, investment house) uses to assess the eligibility of a customer to receive their products like equity capital, insurance or credit to a customer. The name has been derived from the Lloyd's of London insurance market in London, United Kingdom. Financial bankers, who would accept some of the risk on a given venture (historically a sea voyage with associated risks of shipwreck) in exchange for a premium, would literally write their names under the risk information which was written on a Lloyd's slip created for this purpose.

Insurance underwriters evaluate the risk and exposures of the prospective clients. They decide how much coverage the client should receive, how much they should pay for it, or whether to even accept the risk and insure them. Underwriting involves measuring risk exposure and determining the premium that needs to be charged to insure that risk. The function of the underwriter is to acquire or to “write” business that will make the insurance company money, and to protect the company's book of business from risks that they feel will make a loss. In simple terms, it is the process of issuing insurance policies.

Underwriting decisions would typically be influenced by PML (Probable Maximum Loss) evaluations, and the amount of reinsurance ceded on a risk would normally be predicated on the PML valuation. PML is the anticipated value of the largest loss that could result from the destruction and the loss of use of property, given the normal functioning of protective features (firewalls, sprinklers, and a responsive fire department, among others, in the case of a fire loss). This number is usually smaller than the maximum foreseeable loss, which assumes the failure of all protective features.

At the most basic level, managing catastrophe risk involves ensuring that insurers and reinsurers are able to remain viable following losses from a ‘probable maximum’ event. For the most part, insurers and reinsurers approach PML management by planning for the eventuality of a large natural catastrophe, and have quantified their risk accordingly.

A PML Bust could result from the accumulation of risk as in the case of attack on the Twin Towers, the PML was taken to be the Sum insured of one tower and the 9/11 attack was considered to be two events by the insurers. But when the final court verdict came it was taken to be a single event and there was a PML bust which led many insurers to insolvency.

World Trade Centre (WTC) has showed just how necessary it is to perform a worst-case accumulation analysis encompassing all property and Business Interruption (BI) losses, despite the fact that calculating all potential BI exposures is a difficult task.

Insurance-Portfolio Risk:

Portfolio insurance is the strategy of hedging a portfolio of stocks against market risk by short-selling stock index futures. This technique, developed by Mark Rubinstein and Hayne Leland in 1976, aims to limit the losses a portfolio might experience as stocks decline in price without that portfolio's manager having to sell off those stocks.

Portfolio insurance is a hedging technique frequently used by institutional investors when the market direction is uncertain or volatile. Short selling INDEX features can offset any downturns, but it also hinders any gains. This hedging technique is a favourite of institutional investors when market conditions are uncertain or abnormally volatile.

This investment strategy uses financial instruments, such as equities, debts, and derivatives, combined in such a way that protects against downside risk. It is a dynamic hedging strategy that emphasizes buying and selling securities periodically to maintain a limit of the portfolio value. The workings of this portfolio insurance strategy are driven by buying index put options. It can also be done by using listed index options. Hayne Leland and Mark Rubinstein invented the technique in 1976 and it is often associated with the Oct. 19, 1987, stock market crash.

Unexpected developments wars, shortages, pandemics can take even the most conscientious investors by surprise and plunge the entire market or particular sectors into free fall. If an investor is hedging the market, and it continues going strong with underlying stocks continue gaining in value, an investor can just let the unneeded put options expire.

Solvency Risk:

Insurance Companies are considered in the category of Financial Companies in India. Insurance industry involves public participation at large. General Public become policyholders /stakeholders in insurance companies. They are putting their hard-earned monies to secure their future from various types of risks.

Insurance Development Regulatory Authority of India, established in the year 1999 is controlling insurance industry. IDRAI has been established to protect interest of general public and to develop insurance industry on the basis of free competition and free marketability of insurance products.

IRDAI has taken various steps through its Regulations, Guidelines and Circulars to regulate insurance industry. Till date only 3.4% of population in India are covered by insurance companies. Since there is a huge and largest market for insurance is available in India and to keep trust of general public on insurance industry, IDRAI has taking strict decisions and not shying to punish companies, which have violated provisions of the Insurance Act, 1938 and other rules and regulations promulgated by IRDAI.

There are some most important Sections in the Insurance Act, 1938, which have to strictly followed by all insurance companies. The violation of any provisions of theses sections, may lead to cancel of registration or license.

Cambridge Dictionary defines it as; the amount of capital that an insurance company has in relation to probable claims.

The solvency margin is a minimum excess on an insurer's assets over its liabilities set by regulators. It can be regarded as similar to capital adequacy requirements for banks.

The solvency ratio of an insurance company is the size of its capital relative to all risks it has taken.

The solvency ratio is most often defined as: The solvency ratio is a measure of the risk an insurer faces of claims that it cannot absorb.

The solvency ratio of an organization gives an insight into the ability of an organization to meet its financial obligations.

Some Believe that Solvency margin defined as the difference between assets and the expected value of liabilities would not be a reliable measure of the financial state of an insurance company, if either of these or maybe both are not evaluated in a reliable way. The fixing of solvency margins is not an isolated problem, on the contrary it is only part of the security measures which must all be managed at the same time. The ultimate purpose of the security system prescribed by legislation must be to safeguard policyholders and claimants against losses.

The period of one year is the same as the normal accountancy period of the companies. The status of each company can be observed only once a year. If it is then stated to be solvent, the continuation of its activity is allowed for the following year. If the company has not an adequate status, winding up will be immediately enforced if solvency is not re-established in a very short time by means of additional capital, additional reinsurance or by other means. This definition is so general that it takes into account all kinds of risks without limitation to only some few categories of risks, as is the case in some other definitions.

Poor Capital Gearing Ratio it indicates that how efficiently the capital is used in converting into optimum turnover or superior business performance. If Capital is not used effectively for business expansion or does not result into expected return, the promoters would take back their capitals and same would result into insolvency or poor solvency for the insurer. Thus, it is important that the Capital of stakeholders will be used effectively and in such manner that the value of business would increase. Proper utilization of Capital is the most important.

Higher Solvency it indicates the ability of an insurer to mitigate or handle or write bigger risks and ensure further development of business. But keeping higher Solvency Margin, will be questioned by Investors and the Promoters of the Company, because their capital is not utilized for better returns. If insurer maintain LOWER SOLVENCY as required in this case also the regulator (IRDAI) will impose restrictions and continuously follow with insurer to bring Solvency Margin to the extent as may be prescribed. Lower Solvency would also result into undercutting of premium rates as to compete in the market and it may slow down its business growth due to slow rate of business expansion.

ALM (Assets-Liability) Mismatch, it made compulsory for every life insurer to maintain every year matching each of their asset classes with their liabilities of similar duration. If there is mismatch of their assets and liabilities, it would result into severe liquidity risks and reinvestment risk. Wrong matching would also result into lower investment yield for the insurer resulting poor performance and operational results, which may hinder their business growth in the future. The mismatch between Assets and Liabilities may badly effects on Solvency Ratio/ Margin of insurer.

Underwriting / Price Risk, it also affects Solvency of an insurer to a great extent in long run. If an insurer does not have good underwriting standard, would end up in writing mostly bad risks resulting into underwriting loss and poor business performance. If premium is inadequate to cover the claims cost and increasing administrative and marketing expenses, then it may affect the Investment Fund and would result into liquidity risk to the insurer and same will affect future business growth insurer. If the overall Operational Results become negative because of higher underwriting loss and inadequate premium then, continuous poor results would eat away the financial net worth or capital of the company in long run.

CAT & Exposure Limit, due to global warming, catastrophic perils like, flood, earthquake, cyclones etc., are raising all over world. If insurer does not have adequate capital fund and reinsurance protection for such catastrophic events, it would impact Solvency of the insurer significantly. Since occurrence of catastrophic event does not only produce huge volume of accumulation of losses to the insurer but also impacts the severity of losses. The risk exposure limit will significantly be increased in case of any Catastrophic event to the insurer. If these events do not cover with sound capital arrangements by the insurer, then it will definitely affect Solvency Ratio/Margin.

Test Solvency Margin / Ratio:

The application of the definition given above provides an analysis of the different risks which can threaten an insurance company.

- (1) Random fluctuation of claims. This phenomenon is the object of the study of the theory of risk.
- (2) The fluctuation of the basic probabilities of the claims and their trends. The cause, of fluctuations of this kind may be e.g., weather variations in the field of fire insurance, epidemic diseases in the field of life assurance etc.

It is well known that economic conditions have an influence upon the loss ratio of many branches of the non-life business. The period of such fluctuations may be sometimes short (weather) and sometimes long, even several consecutive years (economic depressions). This phenomenon may be estimated to a certain degree by means of the theory of risk, but to a large extent it must be estimated by very rough methods, on the basis of the behaviour of claim ratios observed in times past.

- (3) Losses on investment. Losses of this kind can be caused by many reasons. It can be e.g., the bankruptcy of a loan holder in cases where the valuation of the securities has been too optimistic. Further reasons may be the reduction of the value of equities on the general market, the loss of the value of some real estate caused by some special condition, careless action in the valuation of securities or in holding them etc.
- (4) Miscellaneous risks. It is probably impossible to record thoroughly all kinds of risks which can affect the status of insurance institutions. Some of them can, however, be mentioned here.
 - (a) Natural catastrophes like hurricanes, earthquakes, landslides.
 - (b) Failure of reinsurance. The reason can be a human error, e.g., the reinsurance of a large risk is omitted or the risk of conflagration is miscalculated. The insolvency of the reinsurer can also give trouble.
 - (c) Embezzlement or other misappropriation of the company's resources. This risk cannot be completely avoided even by the most competent audit or supervision.
 - (d) Riots, sabotage and other disturbances. Ordinary war risks may be settled by special legislation in various countries and they need not be considered here. We can also presume that atomic risks are dealt with by various special measures in an adequate way.

Many of the risks mentioned above are of such a nature that they cannot be reliably estimated in advance, especially risks. We must keep in mind that the legal, or any other precautionary measures, can never give absolute safety. If we took into account every, even the utmost improbable, chances of risk, security margins and other measures would become intolerably heavy. All we can do, is try and weigh the risks and security measures on a "common sense" basis, and take into account everything which we know by experience has some realistic probability of occurring and neglect risks of a more theoretical nature, which have small likelihood of ever appearing.

The circumstances of course vary very much from country to country e.g., concerning items (a) and (d), which appears to make it impossible to find an international standard for a security margin to cover all cases. Probably the only thing to be done is to develop reinsurance so that it covers as many risks as possible and carefully exclude in companies' insurance contracts responsibility for any risk which could be overwhelming. The duty of the state supervision is to check that these measures are observed in every insurance institution and that the internal control and checking is sufficient to guarantee security in this respect as well.

The provisions of Section 64V of Insurance Act, 1938 deals with Solvency Margin of Insurance Companies read with IRDAI (Assets, Liabilities, and Solvency Margin of General Insurance business) Regulations, 2016 (as amended from time to time).

SECTION 64V. Assets and liabilities how to be valued.

- (1) For the purpose of ascertaining compliance with the provisions of section 64VA,

Assets (i) assets shall be valued at values not exceeding their market or realizable value and the assets hereafter mentioned shall be excluded to the extent indicated, namely:

 - a) agents' balances and outstanding premiums in India, to the extent they are not realized within a period of thirty days;
 - b) agents' balances and outstanding premium outside India, to the extent they are not realizable;

- c) sundry debts, to the extent they are not realizable;
- d) advances of an unrealizable character;
- e) furniture, fixtures, dead stock and stationery;
- f) deferred expenses;
- g) profit and loss appropriation account balance and any fictitious assets other than prepaid expenses;
- h) such other asset or assets as may be specified by the regulations made in this behalf.

Liabilities (ii) a proper value shall be placed on every item of liability and liabilities in respect of share capital, general reserve and other reserves of similar nature not created to meet specific liabilities and investment reserve, reserve for bad and doubtful debts, and depreciation fund shall be excluded and liabilities hereafter mentioned shall be included to the extent indicated, namely:

- a) provision for dividends declared or recommended, and outstanding dividends in full;
- b) reserves for unexpired risks in respect of
 - (i) fire and miscellaneous business, 50 percent.
 - (ii) marine cargo business, 50 percent., and
 - (iii) marine full business, 100 per cent., of the premium, net of reinsurances, during the preceding twelve months;
- c) estimated liability in respect of outstanding claims, in full;
- d) amount due to insurance companies carrying on insurance business, in full;
- e) amounts due to sundry creditors, in full;
- f) provision for taxation, in full;
- g) such other liability which may be made in this behalf to be included for the purpose of clause (ii).

Explanation: In the case of an insurer whose principal place of business or domicile is outside India, where, in the accounts filed with the public authority of the country in which the insurer is constituted, incorporated or domiciled, in respect of marine insurance business, the provisions for unexpired risks and outstanding claims are not shown separately, the liabilities under items (b) and (c) of clause (ii) in respect of marine insurance business shall be taken together at a figure of not less than the total premium less reinsurances in respect of that class of business during the preceding twelve months.

- (2) Every insurer shall furnish to the Authority with his returns under section 15 or section 16; as the case may be, a statement certified by an auditor approved by the Authority in respect of general insurance business, or an actuary approved by the Authority in respect of life insurance business, as the case may be, of his assets and liabilities assessed in the manner required by this section as on the 31st day of March of the preceding year.
- (3) Every insurer shall value his assets and liabilities in the manner required by this section and in accordance with the regulations which may be made by the Authority in this behalf.

SECTION 64VA; provides that

Sufficiency of Assets;

Every insurer and re-insurance shall at all times maintain an excess of value of assets over amount of liabilities of, not less than 50% of amount of minimum capital as stated under Section 6 and arrived at in the manner specified

by regulations.

An insurer who does not comply with the provisions of subsection (1) shall be deemed to be insolvent and may be wound up by the court. If, at any time an insurer does not maintain the required solvency margin (IRDAI mandates that insurers must maintain 150 percent solvency at all times) in accordance with the provisions of this section, he shall, in accordance with the directions issued by the Authority, submit a financial plan, indicating a plan of action to correct the deficiency to the Authority within a specified period not exceeding three months

The Authority shall be entitled at any time to take such steps as he may consider necessary for the inspection or verification of the assets and liabilities of any insurer or for securing the particulars necessary to establish that the requirements of this section have been complied with as on any date and the insurer shall comply with any requisition made in this behalf by the Authority, and if he fails to do so within two months from the receipt of the requisition, he shall be deemed to have made default in complying with the requirements of this section.

The provisions of this section shall not apply to an insurer specified in sub-clause (c) of clause (9) of section 2.

In applying the provisions of subsection (1) to any insurer, who is a member of a group, the relevant amount for that insurer shall be an amount equal to that proportion of the relevant amount which that group, if considered as a single insurer, would have been required to maintain as the proportion of his share of the risk on each policy issued by the group bears to the total risk on that policy:

Provided that when a group of insurers ceases to be a group, every insurer in that group who continues to carry on any class of insurance business in India, shall comply with the requirements of subsection (1) as if he had not been an insurer in a group at any time:

Provided further that it shall be sufficient compliance with the provisions of the foregoing proviso if the insurer brings up the excess of the value of his assets over the amount of his liabilities to the required amount within a period of six months from the date of cessation of the group:

Provided also that the Central Government may, on sufficient cause being shown, extend the said period of six months by such further periods as it may think fit, so however that the total period may not in any case exceed one year.

The Central Government may, by notification in the Official Gazette, reduce the sum of ten lakhs of rupees or five lakhs of rupees, as the case may be, referred to in subsection (1) to a lower figure not less than one hundred thousand rupees in respect of a country craft insurer or in respect of an insurer not having a share capital and carrying on only such insurance business as, in the opinion of the Central Government, is not carried on ordinarily by insurers under separate policies. Every insurer shall furnish to the Authority his returns under section 15 or section 16, as the case may be, in case of life insurance business a statement certified by an actuary approved by the Authority, and in case of general insurance business a statement certified by an auditor approved by the Authority, of the required solvency margin maintained by the insurer in the manner required by sub-section (1A).]

IRDAI has taken action against Reliance Health Insurance Company Limited for not maintaining Solvency Margin.

IRDAI said Reliance Health Insurance which began operations in October 2018 has not maintained the required solvency margin since June 2019.

While the insurer was asked to restore the level of solvency within one month, IRDAI said that Reliance Health did not comply.

IRDAI mandates that insurers must maintain 150 percent solvency at all times. Reliance Health's solvency stood at 106 percent till June-end. It slipped to 77 percent by August-end and further deteriorated to 63 percent by September-end.

“The insurer was issued a show cause notice and given another opportunity to present its case. As there has been no improvement but a further deterioration in the financial position of Reliance Health, IRDAI has now issued directions to the insurance company to stop selling new policies and to transfer the entire policyholders’ liabilities along with financial assets to Reliance General Insurance,” the IRDAI order read.

An insurance company is considered to be custodian of public money. Being a Financial Sector company, its continuity is affected by various types of risks. It is important and necessary for an insurance company to access its risks and take all necessary steps to mitigate the same. An insurance company cannot deliver or serve its stakeholders, if it does not implement proper system of Enterprise Risk Management System. A company cannot serve its policyholders/stakeholders well if it is not able to protect interest of policyholders and provide assets appreciation for its stakeholders. It is very important to utilize capital introduced by the investor/promoters of the company to provide them adequate results.

Marketing Risk:

Marketing risk is an unavoidable element of marketing activities. However, with the proper marketing risk management techniques, many risks can be mitigated and addressed. Marketing risk management can also ensure that the marketing department has substantial backup plans that will keep financial loss at bay.

Marketing risk management is the process of identifying potential risks in marketing activities and laying out steps to neutralize those risks where possible.

It’s worth backing up for a minute to establish a clear marketing risk definition. Marketing Risk is the potential for failures or losses during any marketing activity, from production to promotion. Marketing risks could include any of the following examples:

- Pricing a product incorrectly.
- Choosing the wrong channel to advertise to a target audience.
- Distribution delays.
- Negative feedback via social media or review sites.
- Employee turnover.
- Business operations changes.

There are many more examples, but this list should give the sense that at any given time, marketing departments are at risk for any of these types of problems, which can lead to financial losses and can harm a company’s brand. Marketing risk management seeks to identify and mitigate the potential for these risks.

Marketing risk management works to neutralize the potential for marketing risk by identifying, assessing, and addressing marketing risk before it happens. Marketing departments often focus their energy on the planning and execution phases for marketing activities, but they would be remiss to stop there. Successful marketing departments need to go a step further and engage in marketing risk management in order to ensure that the marketing activities aren’t impacted by events or circumstances that could have been planned for in advance.

Marketing risk management involves several steps that can help teams avoid some of these risks from the start or be ready to respond when they do arise.

Assessment: Throughout the planning process, marketers should conduct a marketing risk assessment to identify potential risks that could impact activities and campaigns. These could be as simple as identifying the inclement weather trends that might impact production, from hurricane season in coastal areas or snowstorms in cold weather locations. The team might also brainstorm issues that might arise with competitor pricing based on past data.

Analysis: Analysis is the next step and involves considering how likely these events are to occur, how often they have happened in the past, and any data we have that will help us determine which risks are most likely to play out.

Planning: Next, the marketing team will adjust marketing plans based on the identified risks and the marketing risk analysis that determined their likelihood. Alternative plans should be included where possible, so marketing teams know how to adjust their activities should one of the risks turn into reality. For instance, a marketing plan could include an alternative plan should a production or distribution system encounter inclement weather.

Monitoring: Finally, the marketing team needs to continually monitor marketing activities for risk throughout the planning phases as well as execution. Continual assessment of marketing risk can help marketing teams stay ahead of potential problems and employ alternative plans when necessary.

While everyone on the team should be mindful of potential risks, it can be a smart strategy to designate a single team member to assess risk regularly throughout the planning process. Having alternate plans in place ahead of time can significantly improve marketing performance by enabling teams to pivot to a pre-planned alternative without missing a beat. This will help to cut down on any losses the company might have otherwise incurred.

Market Risk:

This is the risk to an institution's financial condition resulting from adverse movements in the level or volatility of market prices of interest rate instruments, equities and currencies. Market risk is usually measured as the potential gain/loss in a position/portfolio that is associated with a price movement of a given probability over a specified time horizon.

Market Risk is the risk that the value of an investment will decrease due to moves in market factors. The three standard market risk factors are:

Equity Risk, Equity risk is the risk that one's investments will depreciate because of stock market dynamics causing one to lose money.

Interest Rate Risk, Interest rate risk is the risk that the relative value of an interest-bearing asset, such as a loan or a bond, will worsen due to an interest rate increase. In general, as rates rise, the price of a fixed rate bond will fall, and vice versa.

Consider a ten year and a twenty-year zero-coupon bond. If the spot rate for all terms is 5% then the prices of the bonds are $1.05^{-10} = 61.39\%$ and $1.05^{-20} = 37.69\%$ respectively.

If the interest rates rise to 6% then the price of both bonds will fall:

The ten-year bond price falls to 55.84%, a 9% drop.

The twenty-year bond price falls to 31.18%, a 17% drop.

Longer dated bonds are more sensitive to interest rate movements than short dated bonds. It is assumed that risk averse investors will require compensation (in the form of higher yields) for the greater risk of loss on the longer bonds. This might explain some of the excess return offered on long-term bonds.

Currency risk, Currency risk is a form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

Operational Risk:

Operational Risk is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. The committee indicates that this definition includes legal risk but excludes systematic risk and reputational risk.

During the early part of the decade, much of the focus was on techniques for measuring and managing market risk. As the decade progressed, this shifted to techniques of measuring and managing credit risk. By the end of the decade, firms and regulators were increasingly focusing on risks “other than market and credit risk.” These came to be collectively called operational risks. This catch-all category of risks was understood to include,

- Employee errors.
- Systems failures.
- Fire, floods or other losses to physical assets.
- Fraud or other criminal activity.

The concept of operational risk has primarily emerged from banking industry. In banking industry thousands of transactions are processed each day therefore the amount of data in respect of losses arising from operation failures is more abundant. This naturally lends itself to the development of frequency and severity models to evaluate the aggregate loss distribution and hence the capital requirement.

Operational risk has been recognized as an important risk for insurers as well as for banks. But a challenge for insurer’s in assessing operational risk is to separate this risk from the loss experience data typically collected for the other underwriting, credit and market risk. For e.g., insurer will need to examine the portion of their underwriting losses that are really due to ineffective or faulty underwriting processes or client management.

It is therefore recommended that insurance supervisors, the insurance industry and the actuarial profession work together to develop appropriate research to measure operational risk.

Liquidity Risk:

The risk that arises from the difficulty of selling an asset. An investment may sometimes need to be sold quickly. Unfortunately, an insufficient secondary market may prevent the liquidation or limit the funds that can be generated from the asset.

An institution might lose liquidity if its credit rating falls, it experiences sudden unexpected cash outflows, or some other event causes counterparties to avoid trading with or lending to the institution. A firm is also exposed to liquidity risk if markets on which it depends are subject to loss of liquidity.

In an insurance context, liquidity risk is exposure to loss in the event that insufficient liquid assets will be available, from among the assets supporting the policy obligations, to meet the cash flow requirements of the policyholder obligations when they are due.

Credit Risk:

Credit risk is the risk due to uncertainty in a counterparty’s (also called an obligor’s or credit’s) ability to meet its obligations. In assessing credit risk from a single counterparty, an institution must consider three issues:

- **Default Probability:** What is the likelihood that the counterparty will default on its obligation either over the life of the obligation or over some specified horizon, such as a year? Calculated for a one-year horizon, this may be called the expected default frequency.
- **Credit Exposure:** In the event of a default, how large will the outstanding obligation be when the default occurs?
- **Recovery Rate:** In the event of a default, what fraction of the exposure may be recovered through bankruptcy proceedings or some other form of settlement?

Risk-based Capital, Types of Risk-based Capital – Current Risks, Special Risks, Non-technical Risks

8.4

Regulators are charged with ensuring that insurance companies can fulfil their financial obligations to policyholders. One way they do this is by imposing a risk-based capital (RBC) requirement. The RBC requirement is a statutory minimum level of capital that is based on two factors:

- 1) An insurance company's size; and
- 2) The inherent riskiness of its financial assets and operations. That is, the company must hold capital in proportion to its risk.

RBC is intended to be a regulatory standard and not necessarily the full amount of capital that an insurer would need to hold to meet its objectives.

The purpose of RBC requirements is to identify weakly capitalized companies, which facilitates regulatory actions to ensure policyholders will receive the benefits promised without relying on a guaranty association or taxpayer funds.

In essence, the RBC formula calculations are critical thresholds that enable timely regulatory intervention. RBC requirements are not designed to be used as a stand-alone tool in determining financial solvency. Rather, RBC is one of the tools that gives regulators legal authority to take control of an insurance company.

By 2021, Indian insurance companies will be required to a risk-based capital (RBC) model of solvency. Solvency is the minimum capital that has been prescribed by the insurance regulator to be maintained at all times. Once regulations change, the type of business risk will decide the amount of capital to be held.

At present, solvency capital is factor based. This is based on the mathematical reserves of the company and the sum of risk for the particular business. This is also called as Solvency I. In contrast, RBC is a method of measuring the minimum amount of capital appropriate for a reporting entity to support its overall business operations in consideration of its size and risk profile.

This means that a company that writes riskier business is required to hold more amount of capital.

With fierce competition to gain and retain big clients, the market has seen the rise of practices including heavy discounts despite claims being reported and huge commissions being offered to large corporate agents like banks.

Companies indulging in such practices will have to provide for a much larger reserve in such cases.

In markets abroad like the UAE, for instance, RBC led to companies going the mergers and acquisition (M&A) route when a much higher deployment of capital was required.

Industry players are of the view that beyond the top 8-10 players, growth has already plateaued in the sector. If capital requirements are raised, that will mean additional pressure.

Initially, in 2013, the Insurance Regulatory and Development Authority of India (IRDAI) had proposed a lower solvency margin for insurers at 145 percent against 150 percent currently including a risk charge.

Insurers are also wary about how risks in a particular business will be assessed.

Risk Based Capital:

Insolvency of insurance companies have made it imperative for the regulators to reconsider the ways of managing risk in insurance companies and whether insurers are adequately capitalized to face the risk. Globally, as a part of regulatory framework, insurance supervisors are developing solvency standards that will ensure that insurers are adequately capitalized and operate safely thereby reducing the risk of failure of insurance companies. One factor that has emerged out of these discussions is that the risks before insurance companies are varied, complex and dynamic and there is no universal formula that fits all.

Risk is defined as uncertainty, volatility or variability in the expected outcome of the process or event. In his book “Risk, Uncertainty and Profit” F.H. knight differentiates risk as one that is measurable and quantifiable and that which is not measurable and therefore quantifiable as uncertainty. Risk management in the insurance industry refers to managing the risks that are quantifiable and measurable. Many studies have been carried out and enumerate the various risks before non-life insurance companies. What emerges out of these studies is that the three major risk groups that are important to non-life insurance companies are:

- Premium related risk.
- Claims risk, and
- Investment risk.

Premium Risk:

Premium related risk encompasses the risk in the process of product definition, pricing, underwriting, and selling either operating individually or collectively. Given below are some of the underwriting risks facing the insurance companies and the list is by no means exhaustive.

- Flawed Product definition.
- Product not be appropriate for the market.
- Pricing of the product might not be correct.
- Unfavourable Terms and conditions of the product.
- Product might not be competitive.
- Lenience in underwriting.
- Adverse selection.
- Inappropriate discounts.
- Change in market, economy, regulation and judicial decisions and
- Inability to reach the project sales volume.
- Inadequate reinsurance.
- Inability to get reinsurance cover.

Claims Risk:

Claims risks are those risks involved in the claims process such as claim notification, adjudication, settlement, reserving, litigation and recovery consisting of

- Increased Severity.
- frequency of claims high above the expectation.

- Increase in fraudulent claims.
- Reporting delays.
- Judicial decision adversely impacting the claims.
- Latent claims.
- Catastrophes.
- Failure of reinsurers.
- Accumulation of risk.
- Expense risk.

Investment Risk:

Investment risk is the risk of an adverse movement in the value of a general insurer's assets or off-balance sheet exposures which includes

- Liquidity risk.
- Market risk.
- Credit risk.
- Cash flow.
- Security of capital.

Insurance companies manage these risks by:

- Diversification - by country, currency, industry, classes, assets.
- Reinsurance.
- Matching and hedging of assets.
- Good management information system and
- Internal control mechanisms.

Risk, Capital and Solvency:

Solvency is the ability of an entity to meet maturing obligations as they fall due. Solvency is measured by excess of assets over liability, such that the assets would be able to cover unforeseen liabilities also. The solvency capital acts as a cushion against the unforeseen losses.

The magnitude of unforeseen liabilities before the insurance companies varies by classes of business written, business mix, size of the company, strategy adopted, management excellence, geographical spread and other external factors. Individually and collectively these aspects of insurance business are the cause of many of the risk before the insurance companies.

The link between the risk and capital and change in the risk profile of insurance companies over a period of time has resulted in the need for reviewing the existing solvency standards and revising the same in accordance with the reality.

Risk Based Capital standards:

The solvency standards adopted by a few regulators around the world are outlined below:

USA:

In the US Risk Based Capital (RBC) is the solvency standard for non-life insurers. Risk factors are decided based on the company's own experience, with the stress on underwriting risk. The building block of RBC are asset risk, credit risk, loss reserve risk and written premium risk. A factor is assigned to the above risk categories to determine risk capital. Each risk category is then combined according to a formula that considers covariance between the categories to arrive at the RBC. RBC is compared with actual adjusted capital to determine the solvency of the company and acts as a guidepost for early intervention by the regulators.

Canada:

In Canada three components of risk namely – unpaid claims and unearned premiums, premiums written and claims incurred are the factors that decide solvency capital.

The margin of admitted assets over liability will be the highest of the three

- 15% of unearned premiums and outstanding claims.
- 15% of gross premium volume in the preceding 12 months and
- 22% of average gross claims incurred over the 3 preceding Years.

In each case an adjustment is made for reinsurance of up to 50% of the gross margin requirement.

UK:

In UK, FSA requires insurers to calculate Minimum Capital Requirement (MCR) and Enhanced Capital Requirement (ECR).

For general insurers, the MCR is the greater of the General Insurance Capital requirement (GICR) and an absolute amount set by the EU also known as the Minimum Guarantee Fund (MGF).

The GICR is calculated as the higher of the premiums amount, the claims amount and the brought forward amount where:

- Premium amount is calculated as 18% of first 50 million euro of written premiums in last year, 16% thereafter multiplied by net/gross claims incurred in last 3 years (minimum 50%) and
- Claim amount as 26% of first 35 million euro of 3-year average incurred claims, 23% thereafter multiplied by net/gross claims incurred in last 3 years (minimum 50%).

Enhanced Capital Requirements (ECR) is more risk-sensitive and considers two categories of risks

- Asset related risk that includes credit and market risk.
- Insurance related risk comprising technical provision risk factors and net premium written risk factors.

Loss ratio volatility by line of business is incorporated by the need to carry additional reserve based on the class of business.

ECR is presently only a reporting requirement rather than a hard test.

In addition, insurers are also required to undertake individual capital assessment (ICA) based on their risk profile and FSA also gives Individual Capital Guidance (ICG) based on its estimate.

Europe - Solvency II:

There are two levels of capital requirements under Solvency II, the Solvency Capital Requirement (SCR) and the Minimum Capital Requirement (MCR). The SCR is a target level of capital while the MCR is a minimum threshold level.

The SCR may be calculated using the Standard Approach or company internal models. The standard approach will be the bench mark for SCR comparison with internal models. Solvency II is still a work in process and internal models and SCR are still under consultation.

Australia – ICA:

In Australia, Minimum capital requirement which is aligned with the risk profile of the insurance company can be decided either based on the internal model or prudential standard subject to a minimum threshold level. The risk factors considered are:

- Insurance risk.
- Investment risk and
- Concentration risk.

Insurance Risk has two components: a charge in respect of Outstanding Claims Risk and a charge in respect of Premiums Liability Risk.

The Outstanding Claims Capital Charge is determined as the sum, over all classes of business of the insurer, of the value of the net outstanding claims liabilities for each class multiplied by the appropriate Outstanding Claims Capital Factor for that class.

The Premiums Liability Capital Charge is determined as the sum, over all classes of business of the insurer, of the net premiums liabilities for each class multiplied by the appropriate Premiums Liability Capital Factor for that class. Currently all classes of business are classified in to three groups. The total Insurance Risk Capital Charge is the sum of the capital charge for each of the two components.

Investment Risk is the risk of an adverse movement in the value of a general insurer's assets or off-balance sheet exposures); the Investment Risk Capital Charge is determined as the sum, across all assets and certain off-balance sheet exposures, of the value of each investment multiplied by the relevant Investment Capital Factor for that investment.

The Concentration Risk Capital Charge relates to the risk associated with an accumulation of exposures to a single catastrophic event at a single site. The Concentration Risk Capital Charge is set equal to the insurer's Maximum Event Retention (MER), plus the cost of one reinstatement of the catastrophe reinsurance cover in cases where the reinstatement reinsurance cover has not been pre-paid by the insurer.

Thus, the common features under solvency standards are:

- Solvency capital is set in two tiers – tier 1 which is a minimum absolute amount of required capital and tier II which is a risk-based capital requirement.
- Premium Risk, Claims Risk and Investment Risk are the three major risk groups considered for solvency calculation.
- Current formula for risk quantification works on empirical data, simple and provides valuable insight.
- Factor based method is the most prevalent method.
- In addition to the common standards companies are allowed to develop their own internal models for measuring and monitoring the risk subject to the approval of internal models by the regulators.

- There is no common standard adopted between the countries to account for additional capital based on the portfolio class of risk. The additional risk capital for class of business varies from nil to % based capital based on the class of business written.

While these measures reduce the risk and provide for a capital base in line with the risk profile of the insurance companies there are certain inherent challenges that the insurance industry has to contemplate.

Assumptions & Implications:

Insurance company failures are costly compared to other industries and insolvency in insurance industry is happening despite the precautions by the industry. While risk-based capital is a step above the erstwhile absolute amount of stipulated capital, it has its own challenge which is how do we measure risk precisely?

Expected losses are amenable to statistical valuation. It is unexpected losses that pose real threat to solvency. Multiplicity of risk factors that are volatile and operate in tandem is what industry needs to be concerned about.

Below are some of the points that need to be examined towards this purpose.

Ensuring Fairness and Adequacy of Estimates:

The existing risk calculation presumes the correctness of the estimate of unearned premium reserve (UPR), loss reserve, and incurred but not reported (IBNR). The problem arises when the margin of error/deviation between the estimate and actual is wide. If the basic estimation is incorrect obviously the additional risk provision which is based on the estimated known liabilities might not be right and hence under reserving and inadequacy of the capital occurs at two levels.

Historically under reserving has been the major reason for many of the insolvencies in insurance world. According to A.M Best report on Insolvency, 27% of insolvencies have been attributed to non-identifiable risk and 22% to insufficient premium and reserves. Recent revalidation of reserve estimates by major insurers also exposes the weakness of the industry. As such back testing of reserves need to be carried out to ensure adequacy of capital.

So, the major challenge is how does the industry ensure that liability estimate is fair and adequate? How to ensure self-regulation by the insurers prior to regulation by the regulators?

Catastrophe loss a special challenge:

Catastrophe models are used extensively in the industry to predict cat losses. These models depend on the historical data on catastrophe events and loss data to predict future events. These data contain errors and are neither adequate nor complete. For example, errors on earthquake are subject to errors with respect to location, time, magnitude, and loss suffered.

There is also a large measure of uncertainty associated with the damage calculations. Structural changes by way of increased population density in the disaster-prone areas, development of mega cities, and inflation in the property value have occurred over a period of time. This has resulted in scenario where severity and frequency of claims per event has increased.

The frequency of cat losses has increased and timing between the catastrophes are reducing. Recent years have witnessed high impact low probability risk events and events that defy probability estimate. Climate change is predicted to have an adverse impact in the insurance industry though empirical evidence is yet to be available.

Flood damages are increasing around the world. Excessive rainfall leading to flood is becoming an annual future in many parts of the world in the last few years.

The question here is should the industry re-examine the cat risk. Should catastrophe models be recalibrated? How do we bring the entire globe under the modelling perspective? Considering the uncertainty in cat loss prediction

and high margin of error would additional risk capital be called for?

Increase in terrorism across the globe:

Post 9/11 the industry has woken up to the horrors and likely losses arising from terrorism. Terrorist activity post millennium has increased changing the loss distribution. Terrorist favoured spots are generally crowded and populated areas such as trains, shopping malls, tourist destination and business centers which pose accumulation risk. Spate of train bombs in cities such as London, Spain and Mumbai within last two years has killed hundreds and injured thousands. No geographical area seems to be spared questioning the wisdom of geographical spread as a tool for risk reduction. Unlike cat losses where there is historical data, the industry lacks expertise to estimate maximum probable loss from terrorism.

How do we quantify terrorism risk is the question that has to answered prior to deciding on the capital to cover terrorism risk?

Accumulation Risk:

Mega corporations have thousands of people working under one roof. Malls, sports events and exhibitions attract people in thousands. Any loss producing event will have impact across multiple portfolios say property, liability, personal accident, health and life insurance portfolio simultaneously and hence the impact to the industry could be much more than expected.

Accumulation risk needs to be projected and provided for appropriately.

Change in Internal Practice:

A policy or procedural change in operation of the company could project a change in risk profile without actual change in the risk. To give an example in the case of long-tail liability claims, the practice of not discounting the claim to discounting or variation in the discount ratio could modify the risk profile and hence the required capital.

The insurance industry has the responsibility to determine the risk from above perils and provide for the same.

While it might not be prudent to provide capital for all the above risks, the insurers companies are to have a framework designed to mitigate the impact of risk when this risk materializes. The time lag between the manifestation of event generating loss and reaction needs to be minimized. The emphasis should be on the ability to bring in additional capital if needed to meet liabilities, and quick response time.

The management of the companies needs to be proactive in visualizing the structural changes in risk and prepare adequately for the same.

A business continuity plan in the case of worst-case scenario and plan for sourcing of additional capital has to be available with the insurance companies

To quote Peter Bernstein “The essence of risk management lies in maximizing the areas where we have some control over the outcome while minimizing the areas where we have absolutely no control over the outcome and the linkage between effect and cause is hidden from us.” The current focus of industry is on areas where risk can be quantified and monitored. This is effectively done at the company level, and the industry as a whole should gear up to effectively manage future uncertainties.

Risk Management Process in Insurance

8.5

The recent changes in the insurance market and socio-economic environment have meant that the risks that insurers now find themselves facing have evolved. These range from volatile investment conditions, increases in longevity and mortality risks through to terrorism threats and climate change. As a consequence, stakeholder focus on these risks and the way in which they are managed has also sharpened. It is, therefore, increasingly important that insurers fully understand the risks to which they are exposed. No one likes to think about the bad things that can happen to them, but for many people, unexpected shocks are a daily threat.

Low-income families are particularly vulnerable to potential losses from a host of situations and may be ill-prepared to cope financially with their negative impact. Small and frequent shocks, such as children's illnesses, may only have short-term impact, while more significant events, such as the destruction wrought by natural disasters or the death of an income earner, can bring financial ruin. Such crises wipe out the hard-won gains painstakingly accumulated over time. As families go deeper into debt and/or sell assets to pay their unexpected expenses, their climb out of poverty can easily be thwarted. Hence, anticipating risk and managing risk is of paramount importance not only for an insurance company but for an individual also.

Coping with Shocks: Reaction or Protection:

Shocks are not new; neither are the pain and expense that come with dealing with them. From country to country, the list of risks is very similar: accident, illness, death of an income earner, fire, theft, natural disaster and economic shocks caused by events such as hyperinflation. The consequences of these risks are significant and may include grief, financial hardship, loss of income, loss of productive assets and lost economic opportunities.

Risk Management:

Simply put, risk management is a two-step process—determining what risks exist in an investment and then handling those risks in a way best-suited to our investment objectives. Risk management occurs everywhere in the financial world. It occurs when an investor buys low-risk government bonds over more risky corporate debt, when a fund manager hedges their currency exposure with currency derivatives and when a bank performs a credit check on an individual before issuing them a personal line of credit. For insurance companies, knowing and anticipating risk is of paramount importance to be successful in the business. Risk management ensures that an organization identifies and understands the risks to which it is exposed. Risk management also guarantees that the organization creates and implements an effective plan to prevent losses or reduce the impact if a loss occurs. A risk management plan includes strategies and techniques for recognizing and confronting these threats. Good risk management doesn't have to be expensive or time consuming; it may be as uncomplicated as answering these three questions:

Senior Management:

How can the board and senior management provide more effective and informed oversight of insurance of company's risks?

Are risk considerations given appropriate profile in company and strategic planning processes?

What should insurance company be doing to realise the benefits of further integration of risk, capital and business management activities?

How can an insurance company improve the knowledge and understanding of board and senior management to raise the quality of discussion and challenge on more complex matters?

Are the company's risk appetite statements and risk policies sufficiently comprehensive and well understood and workable?

Does firm have a clear view of how it wants to develop its risk management practices?

Are there enough opportunities for independent and informed challenge to risk management processes and outcomes?

Is there enough objectivity in risk identification and assessment processes?

Does firm's management information provide sufficient and timely material on risk issues and does it prompt appropriate action?

Is there enough clarity of how responsibilities for risk management activities are allocated in firm?

Benefits to Managing Risk:

Risk management provides a clear and structured approach to identifying risks. Having a clear understanding of all risks allows an organization to measure and prioritize them and take the appropriate actions to reduce losses. Risk management has other benefits for an organization, including:

- Saving Resources: Time, assets, income, property and people are all valuable resources that can be saved if fewer claims occur.
- Protecting the reputation and public image of the organization.
- Preventing or reducing legal liability and increasing the stability of operations.
- Protecting people from harm.
- Protecting the environment.
- Enhancing the ability to prepare for various circumstances.
- Reducing liabilities.
- Assisting in clearly defining insurance needs.

An effective risk management practice does not eliminate risks. However, having an effective and operational risk management practice shows an insurer that organization is committed to loss reduction or prevention. It makes organization a better risk to insure. Role of insurance in risk management Insurance is a valuable risk-financing tool. Few organizations have the reserves or funds necessary to take on the risk themselves and pay the total costs following a loss. Purchasing insurance, however, is not risk management. A thorough and thoughtful risk management plan is the commitment to prevent harm. Risk management also addresses many risks that are not insurable, including brand integrity, potential loss of tax-exempt status for volunteer groups, public goodwill and continuing donor support.

Risk Management Strategy:

- People are now more likely to sue. Taking the steps to reduce injuries could help in defending against a claim.
- Courts are often sympathetic to injured claimants and give them the benefit of the doubt.
- Organizations and individuals are held to very high standards of care.
- People are more aware of the level of service to expect, and the recourse they can take if they have been wronged.

- Organizations are being held liable for the actions of their employees/volunteers.
- Organizations are perceived as having a lot of assets and/or high insurance policy limits.

Risk management is a major area of concern for an insurer. Risk management is a major area of concern for an insurer. The insurer who manages the risk adequately and prudently, always enjoys risk free functioning, which go a long way in building the inner core strength of its future functioning in the industry. The US debt management, has taught a lesson to the global risk managers, that how important it is to anticipate risk well in advance, otherwise it will spell doom for that company or an economy.

A General Insurance company is exposed to various types of risks including

- Underwriting.
- Reinsurance.
- Operational.
- Market and
- Liquidity risks amongst others.

The objective of a risk management framework is to ensure that various risks are identified, measured and mitigated; and policies, procedures and standards are established so as to adequately address these risks through systemic response and strict adherence. The Insurance Regulatory and Development Authority (IRDA) in August 2009 issued guidelines on corporate governance for the insurance sector. Apart from laying emphasis on the importance of governance in the insurance sector, the circular laid out the importance of risk management and the need for control functions.

Accordingly, every company was mandated to form a risk committee as well as appoint a Chief Risk Officer. The guidelines stated that sound management of an insurer is dependent on how well risks are managed; and emphasized the need to lay down the risk management strategy and monitor all risks across various lines of business.

Key constituents of a Risk Management Framework:

Every company would need to evolve its own risk management framework keeping in mind the nature, size and complexity of its business. A risk framework can be formulated with learnings from the failures of global insurance companies along with guidelines advocated by ratings agencies and the outlook of consulting companies towards risk management. Issues to consider in insurance risk management Sound risk management is a business-critical issue Effective risk management increases the prospect of insurance business objectives being achieved, whereas neglect of these responsibilities can have consequences for senior management and fair treatment of customers, with resulting damage to the business. So, we place significant emphasis on senior management taking responsibility for their firms' systems and controls and, in particular, assessing and managing risk. The effectiveness of processes and procedures to maintain adequate controls is also of equal importance. Firms who can manage their businesses well and demonstrate effective risk management processes and procedures are likely to receive less regulatory attention. A significant number of insurance company may have designed risk management processes primarily to meet our rule requirements.

Good risk management was rarely thought of as a possible route to improved commercial effectiveness and performance. In this review the picture appears to have improved significantly. The level of buy-in to risk management by boards and senior management is demonstrated in a number of ways. For example, risk management is a regular agenda item at board meetings in many firms. Risk is also becoming more of a factor in business planning and performance reviews, although in a minority of mostly smaller firms, risk assessment is not part of the business planning process. A few firms had also developed risk frameworks long before the introduction of latest rules and guidance, but managing the full range of risk exposures across the business was a relatively new concept for many.

Despite these welcome developments, many insurance firms still appeared to lack a vision of how they want to develop their risk management frameworks. Development activities were often remedial rather than progressive.

In many of the firms with risk committees, these have become more focused on high level oversight. For example, in the last few years, the role of some risk committees has moved from identifying and managing operational risk to consideration of the firm's full range of risk exposures. This reflects increasing management awareness of the importance of understanding all the factors that can affect future business performance.

There are a number of possible reasons for this shift of emphasis.

Firstly, as the underlying risk assessment processes have themselves developed, in particular for operational risk, the role of the risk committee has been able to move towards assessing the output from the risk assessment process rather than overseeing development of the process itself.

Secondly, in some firms, risk committees found themselves out of their depth when considering technical risk issues, such as insurance underwriting exposures. Consequently, there was often more of a focus on detailed operational risk issues. To overcome this, increasing numbers of firms have passed responsibility for oversight of specific risk areas to other, often newly constituted, board committees. For example, there may be asset and liability committees for financial risks, comprising relevant technical experts. The risk committee can then focus more on high-level coordination and challenge to risk management activities. When the remit of the risk committee does not extend across all risk areas, it is still important that risk management activities come together effectively through some other part of the governance structure. We have concerns that in some firms there are significant gaps or inconsistencies in the oversight of some specific risk issues. This could lead to senior management being unsighted on specific areas/risks.

The use of committees should support, and not replace, board involvement in the most material matters for the firm. Effective coordination is particularly relevant to insurers who are exposed to a large number of 'boundary risks'. Risks such as those in claims management, for example, can have implications for both operational and insurance risk management activities. This is particularly important as arguably there are more boundary risks in the insurance sector than in other sectors. In the case of insurance company whose risk management is coordinated at group level, we expect the firm's management to exercise appropriate oversight over the risk management processes and satisfy itself of the appropriateness of such processes. In such cases, a group risk function can enhance the process, for instance by monitoring aggregate risk levels and providing local advice. But the firm's governing body also needs to oversee its risk management, including setting risk appetite at a level that is appropriate for the firm. Reviewing the effectiveness of risk management oversight is important.

Recognise that many aspects of risk management processes are complex and it is not necessary, and indeed not possible, for every member of the board to be fully technically competent in all risk areas. But to make effective individual contributions every board member should maintain at least a minimum level of understanding of all key issues and processes within the business. This may pose a recruitment challenge for some insurance company, but there is a role for executive management, not only in supplying or facilitating an induction programme and training and development, but also in helping governance bodies to assess, and regularly reassess, their individual and collective development needs. Learning from insurance failures. The financial crisis in USA makes abundantly clear the importance for insurance companies of pre-emptive and independent risk management. The debt which has posed risk for US economy could be insulated.

This task poses demands at every level: individual companies, global groups, regulators, governments, rating agencies, and international institutions. Regulators and governments in many countries have launched initiatives to bolster financial stability and restore market confidence. As part of this effort and recognising that they themselves had not adequately appreciated the risks building up in the financial system, most are reviewing their regulatory regimes to help identify and avert future crises. Repeated crisis is a matter of grave concern, that somewhere risk in debt management has not looked after well in USA. It is lesson for other countries of the world. The dot.com bubble, the sub-prime crisis and now the debt crisis in US has exposed that how US economy is non-serious about anticipating risk and has exposed the entire US economy under deep financial crisis never seen before.

The role of US insurance in managing risk is matter of concern. It is crucial for the insurance industry that

regulators and governments succeed in their battle to restart the world's financial markets. Success will require international cooperation and coordination, with group-level supervision and efficient capital management for global (re)insurance groups. Any new regulation will need to take account of the insurance industry's distinct business model; it should avoid creating market distortions and offer clear incentives for sound risk and capital management. There are various publications which study the reasons for insolvencies of global general insurance companies. AM Best, the global credit rating agency, published a study in May 2008 which evaluates reasons for US bankruptcies during the period 1969 to 2007. Further, a Canadian paper published in 2007 evaluates similar reasons for Canadian general insurance company failures.

Approach proposed by Credit Rating Agencies: The role of credit rating agencies is of paramount importance. The way credit rating agencies visualise risk, is an important factor for the smooth functioning of the insurance company. With the ever-growing importance of risk management, credit rating agencies over a period of time have been laying great emphasis on risk management practices of companies. The reasons for insurance failures are inter-related and hence adopting an ERM approach ensures that risks are identified on an Enterprise-wide basis and are correlated with their impact evaluated across the organization.

Therefore, ERM is the evolution of operational risk management into a strategic process which aligns strategy, process, people and technology at the entity level. From the perspective of developing a company specific approach for risk management, both AM Best and S&P suggest the following areas:

Setting a framework and culture towards risk management There must be a framework and culture of risk management in the insurance company. If it is not taken seriously, it could spell disaster for the survival of the company in the long run and a sudden unanticipated risk. It is very important for a 'Risk Aware' culture to be set within the organization as a 'Silo' approach to risk management is unlikely to yield results towards sound risk practices.

Some of the steps suggested by rating agencies include:

- Involvement of the board and senior management in risk management.
- Establishing and communicating risk management objectives while forming an opinion on their credit rating.

They underline the criticality of adopting 'ERM' as an approach wherein the company has a focus on Enterprise-wide risks, rather than the traditional approach of risk management wherein each department manages the risks related to itself e.g., reinsurance looking at reinsurance risks and the legal department looking only at legal risks. They also advocate

- Setting risk tolerance and key risk metrics.
- Setting roles, responsibilities and oversight.

Risk Identification and Management To identify risk, one needs to consider two key questions:

- What can happen-this is about identifying all negative consequences for the risk.
- How and why, it can happen-this is about identifying scenarios and events that may precipitate negative outcomes.

The steps recommended by rating agencies for risk identification include working on defining traditional risks and having exception reporting with action plans in place for exception items. The following five key areas would need to be monitored from a traditional risk management perspective:

- Credit Risk.
- Market Risk.
- Underwriting Risk.

- Operational Risk.
- Strategic Risk.

For measuring and monitoring these risks it is imperative for firms to maintain a Risk Register. A risk register is a repository of risks that the company is exposed to along with a clearly formulated and consistent approach to measuring risks and subsequently either migrating or mitigating that risk. The objective of the Risk Register is for the company to be able to aggregate common risks across businesses and to analyse and manage those risks effectively.

This is done by employing a top-down as well as a bottom-up approach to risk identification:

From a top-down perspective, the company's ERM leadership and corporate level risk committee must identify all risks that are large enough in aggregate to threaten the firm with financial distress in an adverse environment. The bottom-up process involves individual business units and functional areas conducting risk-control self-assessments designed to identify all local-level risks that are material. The goal is to identify all important risks, quantify them using a consistent approach, and then aggregate individual risk exposures across the entire organization to produce a firm-wide risk profile that takes account of correlations among risks.

Identifying Risks-Insurance Companies:

Insurance company faces major challenges while identifying risk. To identifying risk is a matter of serious concern. If risk is not properly identified, it may lead to serious problems for the smooth functioning of the insurance company. The most solution expert says is ERM programs. ERM programs all start out with a suggestion that must identify risks. Risks should be identified within several major categories. Here is a typical list of categories for an insurer:

- Insurance Risks
 - ▲ Underwriting.
 - ▲ Reserving.
- Investment Risks
 - ▲ Interest
 - ▲ Credit
 - ▲ Equity
 - ▲ Foreign Exchange
- Other Counterparty Risks
- Operational Risks
 - ▲ Legal/Compliance
 - ▲ IT
 - ▲ Distribution
 - ▲ Human Resources
 - ▲ Operations
- Strategic Risks
- Group Risks

But there are two ways to do this that give very different results.

- Top Down
- Bottom Up

The bottom-up process is urged by **Committee of Sponsoring Organizations**’ (COSO) and requires volumes of documentation and hours and hours of meetings and discussions. The result is a list of as many as 100 or more risks for a major sized organization. This process requires at least a year to accomplish. However, at the end of that year, the top executives of the firm will find that the product may well not be ready for them to get any use out of it. That is because risk identification and in fact risk management takes on very different character at different levels of the organization.

There almost needs to be three different risk management programs at any larger organization.

One that is oriented to the top management, one that is oriented to the middle management and one that is oriented to the supervisory levels.

The COSO type risk identification process is designed to serve the supervisory and middle management. The initial risk identification process is done at the supervisory level, which at a very large organization can mean hundreds of people. The findings are eventually summarized and ranked, but the summary is at a level that is appropriate for middle management attention.

The top management is better served by a risk identification process that is more top down. If top management is unable or unwilling to do the risk identification work themselves, then it can be a middle up process. Regardless of how the process is started or ended, there will need to be guidelines for the significance of risks.

A typical bottom-up risk identification can end up with well over 100 risks often as many as 200. Prioritization is the second half of this basic risk management step. And the prioritization will depend upon the significance of the risks and significance will be based upon a measurement of the risks. Which is the second fundamental practice of ERM. The thresholds should be established for significance of risks that should get board attention, a lower threshold that should get top management attention, then a lower threshold for middle management attention and a lower threshold for risks to get attention from supervisors. None of the risks identified by the detailed bottoms up process are unimportant, but it is important to determine who they should be important to.

Risks can be mapped in a frequency Severity Matrix: The third step of this practice is to classify the significant risks between those risks that are known by management to be well controlled and those that are less well controlled. Immediate attention can then be focused on those risks that were shown to be of high significance and lower control, providing an immediate valuable product out of this very first stage of ERM.

Risk Measurement & Capital Modelling: The key element in risk measurement is management reporting with regard to performance vis-à-vis risk tolerance. This is an exercise which should be done on a periodic basis with pre-defined levels of escalation. Capital modelling is a tool which enables the organization to evolve towards measuring returns based on risk allocated capital. There are various capital models available in the market based on which insurance companies in developed markets manage their business plan. Allocation of capital is done based on the risk adjusted returns for each line of business. The IRDA has recently come out with guidelines on Economic Capital which is the first step towards the migration of the Indian insurance industry in the direction of capital modelling.

Emerging Risk Areas: It is important for the management to stay focused on emerging risk issues like climate change and the outbreak of pandemics to keep the enterprise insulated from uncertainty. From a risk management perspective, it is imperative that the management keeps evolving its risk framework and that the lessons learned through the ERM development process are continuously incorporated in the next steps of ERM development. Further, the rating agencies state the importance of maintaining the independence of the risk function as well as ensuring a coordinated approach with the audit function and the Chief Financial Officer.

Risk management for an entity is a comprehensive management imperative that takes into consideration every facet of risk exposure. Besides, the ancient styles of managing the risks as and when they arise are no more functional in a world that is ever so dynamic, and where even to consider that one is above a particular risk could prove foolhardy.

Anticipating the risks well in advance and gearing up oneself to tackle the negative outcomes is more the order of the day. In this aspect, the top management has to ensure that these practices have percolated into the organization's culture. Especially at a time when the clientele is always on the prowl to watch the performance of the entity, embracing firefighting methods alone can ensure that corporates eventually succeed. It does not need to be emphasized that risk management is all the more pertinent in a business-like insurance where the policyholders have transferred their risks to the players; and look forward to being compensated when the eventuality arises. Even the slightest failure in such a scenario would create a dent in the reputation of the players; and it is one's guess as to what it would lead to, in a severely competitive environment. Risk management thus has to take a wholesome view of all the possible areas of risk exposure and gear up to face even the worst-case scenarios. How ironical that we keep talking about the importance of risk management; and to be prepared always for eventualities. And how often do the risk management strategies look so meek when nature strikes.

8.5.1 Risk Identification:

An insurer should have effective means of obtaining pertinent information to identify and measure its exposure to risks inherent in its core activities. Where a risk is not readily quantifiable, for instance some operational risks, an insurer should undertake a qualitative assessment that is appropriate to the risk and sufficiently detailed so that it can be useful for risk management.

An insurer should consider the implications associated with selecting, accepting and retaining risks which may deviate from what was envisaged during the product development and pricing stages. Such risks may include:

- ◉ accepting risks without imposing adequate loading or conditions;
- ◉ accepting risks which should have been declined given the insurer's risk tolerance;
- ◉ accepting non-homogeneous risks under the same risk category;
- ◉ accepting and retaining risks in excess of the resources available to the insurer (risk accumulation);
- ◉ accepting lives/risks whose experience is worse than that envisaged when pricing the product;
- ◉ inadequate reinsurance protection or discrepancies/ inconsistencies between the coverage and terms offered under the direct policies and that under the reinsurance outward contracts; and
- ◉ in the case of life insurance, allowing policyholders to take on more coverage than they can reasonably afford.

An insurer should analyse its risk profile in conjunction with the legal, economic, social and political environment in which it operates, to identify the potential sources of risk and estimate the probability and consequence of each risk. Such risks may include:

Underwriting Risk: The insurer has to decide what and how much risks to retain taking into consideration its risk appetite, and the availability and cost of reinsurance. It should identify the source and magnitude of concentration of risks and assess the impact of likely adverse events. It also has to be mindful of possible gaps in the reinsurance programme, resulting in more risks being retained than intended. In alternative risk transfer mechanisms, such as insurance securitisation, the insurer may also face basis risk whereby the losses recoverable under the arrangement may not exactly match the actual losses suffered by the insurer.

Legal Risk: Another material risk faced by the insurer is the risk that the contract wordings do not accurately reflect the intent for the purchase of the reinsurance cover or the contract is not legally enforceable.

Credit Risk: The insurer also faces credit risk arising from potential defaults by its reinsurers as it is contractually obligated to pay all claims in respect of the underlying policies in full.

Liquidity Risk: The insurer is particularly exposed to liquidity risk in the event of large losses whereby it may have to pay the claims prior to receiving all the reinsurance recoverable.

Risk management in the insurance business is a bit of a head scratcher. On one hand, insurance companies are selling what many people consider to be a risk mitigation. On the other, insurance companies themselves face a variety of risks they need to mitigate.

Consider a misconception about insurance as it pertains to risk management: Too often, people think insurance is a sufficient, catch-all control activity. But while insurance is a perfect way to protect a business from many risk scenarios, there are other scenarios insurance just can't cover. Oftentimes, risk insurance does not cover the core competencies of a business.

Insurance companies can “self-insure,” or purchase coverage from a reinsurer, but this doesn't ensure all of the company's risk is accounted for. One of the biggest values an insurance company provides is customer service for those who need to submit a claim. If customers consistently have poor customer service experiences, they're likely to share their stories on social media, tarnishing the company's reputation and leading the company to fall behind their competition.

How Can Insurance Companies Benefit from Risk Management?

According to a study by the National Association of Insurance Commissioners (NAIC), core risks in the insurance business include “underwriting, credit, market, operational, liquidity risks, etc.” Given this wide variety of concerns, there is a tremendous opportunity for Risk Management in Insurance Companies to make a positive impact.

How Enterprise Risk Management could help:

- Risk management involves identifying, assessing, and mitigating risk. The beauty of a well-implemented risk management program is that it's built on a foundation of Standardized Assessments to help companies prioritize their risk based on its potential impact. Naturally, this process will surface risks that will impact the business's core competencies.
- For an insurance company, customer service would inevitably come to the forefront of a risk assessment. To address this risk, the insurance company could take steps to integrate incident management and risk management. Most companies have a way to track incidents like customer complaints, but many do not have a way of categorizing, prioritizing, and escalating incidents across teams. Risk management in the risk insurance business helps centralize and identify trends in customer feedback.
- From there, insurance companies can implement controls to address those trends, such as hiring more customer service reps to resolve long wait times or implementing call screenings to identify less-than-helpful interactions.

Examples of Risk Management in the Insurance Sector

Depending on emerging threats, professionals in the insurance sector face a wide variety of risks. Let's take a look at some examples of what those risks might be (and what to do about them):

Property damage: Insurance companies are often concerned with protecting their clients' physical assets, including their brick-and-mortar properties. While natural disasters and other events may not destroy property entirely, they always pose a significant threat to a business' ability to operate normally.

Mitigation Options:

- Invest inadequate insurance coverage.
- Implement strategic controls for prevention.
- Develop a fool proof Business Continuity Plan that is proactively communicated with organization.

Data breaches: There's no question that businesses are relying more on technology today than ever before, meaning everyone is more susceptible to the risks associated with technology. Cybersecurity threats and ransomware attacks in recent years have skyrocketed, and data hacks have impacted businesses of all industries and sizes.

Mitigation Options:

- Conduct intuitive and objective IT risk assessments.
- Align policies and procedures to best-practice frameworks and regulations like ISO, NIST, COBIT, GDPR, CCPA and more.
- Take a holistic approach to managing IT risk by engaging departments across the enterprise.

Product or Service Issues: When customers feel that their product did not meet expectations, challenges and risks are inevitable. So how do prevent those risks from materializing into a more serious offense like a lawsuit?

Mitigation Options:

- Invest in professional liability insurance.
- Implement ERM software in organization to prevent negligence claims.
- Conduct vendor due diligence to prevent third party providers from producing products or services that don't meet organization's standards.

Human Capital Costs: Employees pose a significant amount of risk to any business. Human needs and how they make decisions can directly impact a company's wellbeing.

Mitigation Options:

- Invest in workers' compensation insurance.
- Focus on protecting organization from liability claims by investing in enterprise risk management software.
- Conduct mid-year reviews (at the minimum) to determine where to invest more time and where to scale back resources.

8.5.2 Risk Assessment:

The estimated risks should be compared against the insurer's risk criteria to decide on the priority to be assigned to address each of the risks and the appropriate responses.

Every risk is measured is measured based on two parameters:

- Frequency of the risk
- Severity (impact) of the risk if it happens

Frequency: Frequency is how often a particular type of loss occurs or will occur. Generally, what we experience in our life is that smaller losses occur more frequently and larger losses less frequently and this is true in all spheres. Thus, each risk has to be measured and a probable frequency must be anticipated to decide the risk management

If a finer and sharper analysis of Risk is required, the likelihood can be measured in a 5-point scale as under:

Risk likelihood	Likelihood Description	Level
Rare	May occur rarely only in exceptional circumstances	1
Unlikely	Unlikely to occur, but could occur at some point of time	2
Possible	Fairly likely occur at some time or in some circumstances	3
Likely	Will probably occur at some time or in most circumstances	4
Almost certain	Is expected to occur in most circumstances	5

Severity of risk:

When considering the degree of risk involved, we must also consider severity, the amount of loss that is to be sustained (impact). To predict future losses, prior occurrences should be reviewed to determine how often losses of a certain type have taken place and the range in cost of those losses. Various factors are applied to recognise such things as inflation, changes in laws, delay in reporting claims, increased activity etc.

Risk measurement:

Therefore, a Risk is measured based on both Frequency and Severity of the risk. Consider the example of the Risk of Earthquakes in Indonesian region. Since Indonesia is located in a high seismic risk zone, the frequency (probability of occurrence) is very high. At the same time, an Earth quake if it happens in Indonesia is accompanied mostly by Tsunami and creates huge destruction to Property & lives.

Therefore, the Risk arising out of Earthquakes in Indonesia is “Very high”.

All risks can be classified based on an analysis of the above two factors and accordingly a 2 x 2 matrix can be created and all risks can be classified in the appropriate quadrant given below, depending on the assessment of the risks.

Frequency/Impact	Low impact	High impact
Low Frequency	Low risk	High risk
High Frequency	High risk	Very High risk

8.5.3 Risk Treatment:

An insurance is a means of protection from financial loss. It is a form of risk management, primarily used to hedge against the risk of a contingent or uncertain loss. Through insurance we analyse, evaluate, estimate and transfer outcomes of risk/perils to the insurance company. The insurance company generally in lieu of small payment called “Premium” issue an insurance policy (insurance contract) by insuring specified risks/perils. Please note that insurance company indemnified us in case of financial loss on happening of those insured risks/perils.

An entity which provides insurance is known as an insurer, an insurance company, an insurance carrier or an underwriter.

The insurance companies also have to secure themselves against large claim for its sustainability and make profit. The Re-insurance concept is insurance of insurance companies. In this process the original insurance company share (subject to its retention) a large portion of stake to other insurance company or they contract with another insurance company to underwrite its proposal in case of large sum assured.

In this case if insurers finds that they have entered into a contract of insurance which is an expensive proposition for them or if they wish to minimise the chances of any possible loss, without, at the same time giving up the contract, resort to have a device called reinsurance.

“Re-insurance Contract” is between the re-insured and the re-insurer, the assured has nothing to do with it, except so far as it guarantees him against default by his own re-insurance. He cannot sue on it. But the re-insurer’s liability would be discharged by the payment to the assured of the amount at the time of loss. The Original Contract of Insurance and Re-insurance Contracts are two distinct contracts and the re-assured remains solely liable on the original insurance and alone has any claim against the re-insurer.

A policy of re-insurance stipulates for payment by the re-insurer “as may be paid” by the re-insured. This means that the liability of the re-insurer is co-extensive with the liability of insurers.

When the loss or the event insured against occurs, the liability of the re-insurer under the policy of re-insurance comes into existence but the re-insurer shall have to be satisfied by evidence or admission before they may call upon to indemnify the reinsured. It means a re-insurer have all rights to ask evidences and asked by the insurer against a claim from the insured to verify genuineness of the claim.

The liability of re-insurer becomes fixed as soon as the amount payable under original policy is admitted and ascertained. Ex-gratia payments do not bind re-insurer and note that under a policy of re-insurance, if insurer pay any ex-gratia payment to the original insured, then re-insurer is not liable to pay his share in the Ex-gratia payment.

That in case of a re-insurance contract, the insurer is bound to prove the loss against the re-insurer in the same manner as the original insurer must have proved against him irrespective of the fact whether the insurer has paid the insured or not.

Limitations of Traditional Insurance Methods: The inefficiencies of traditional insurance have contributed substantially to the development of Alternative Risk Transfer. An analysis of the costs of traditional insurance covers shows that the difference between the premium and the expected value of the loss is comparatively high. This is often explained as a result of the information asymmetry between (re)insurers and policyholders.

Traditional insurance prices are arrived at, on the basis of average risks, and are therefore higher than the risk-adjusted premium rates for good risks. As a result, good risks are becoming increasingly reluctant to cross-subsidise bad risks, and are turning to self-insurance instead. As such there is inequity in rating. With insurance there is a danger that the policyholder has little incentive to prevent or contain a loss, which means the insurer has to demand a higher average premium (moral hazard problem).

In the case of self-financing, the policyholder has a direct incentive to adopt suitable risk management measures to prevent losses to a reasonable level. Moreover, as a result of this phenomenon (moral hazard) insurance companies have set high deductibles (first loss amount met by the insured), which have resulted in the diminishing marginal utility of insureds, because intuitively, risk transfer fails.

Various ART solutions eliminate the problem of moral hazard by defining the loss event on the basis of an independent index or a physical event. However there arises a new phenomenon of basis risk.

There is usually capacity constraint in the industry. Some risks are well understood but considered uninsurable due to their sheer size. For example, some natural catastrophe scenarios range from USD50 billion to USD100 billion, depending on the location and intensity of the event. Commodity risks and financial risks aggregate exposures of magnitudes that challenge the capital strength of many commercial insurers. Securitisation for example can supplement the capacity of the commercial insurance market by tapping directly into the capital markets. Other ART products shift the focus from risk transfer to risk financing and hence increasing the scope of risk management solutions.

Alternate Risk Transfer: ART is an umbrella term for a range of products, other than conventional annual insurance or reinsurance, which handle financial risk. Generally, these products import techniques, attitudes and language from corporate finance and the capital markets into areas normally dominated by insurers, or vice versa.

Alternative risk transfer (ART) refers to the products and solutions that represent the convergence or integration of capital markets and traditional insurance. The increasingly diverse set of offerings in the ART world has broadened the range of solutions available to corporate risk managers for controlling undesired risks, increased competition amongst providers of risk transfer products and services, and heightened awareness by corporate treasurers about the fundamental relations between corporation finance and risk management. [https://link.springer.com/chapter/10.1007/3-540-26993-2_18].

The alternative risk transfer (ART) market is a portion of the insurance market that allows companies to purchase coverage and transfer risk without having to use traditional commercial insurance. The ART market includes risk retention groups (RRGs), insurance pools, and captive insurers, wholly-owned subsidiary companies that provide

risk mitigation to its parent company or a group of related companies.

- The alternative risk transfer (ART) market allows companies to purchase coverage and transfer risk without having to use traditional commercial insurance.
- The ART market includes risk retention groups (RRGs), insurance pools, captive insurers, and alternative insurance products.
- Self-insurance is a form of alternative risk transfer when an entity chooses to fund their own losses rather than pay insurance premiums to a third party.

A number of insurance products are available on the ART market, such as contingent capital, derivatives, and insurance-linked securities.

Examples of ART:

- Securitisation and insurance derivatives.
- Insuratisation.
- Finite and financial reinsurance.
- Captives.

1. Insurance Securitisation:

Transferring bundles of risk directly to the capital markets.

2. Insuratisation:

- i. Using insurance capital and skills to price and assume banking risk.
- ii. Expands the insurable universe of risk towards the inclusion of any surprise which can impact corporate earnings
 - a) Revenue guarantee.
 - b) Residual value.
 - c) Credit derivatives.
 - d) Enterprise risk.

3. Finite:

Usually, multi-year contracts in which the loss experience and time value of money is explicit.

4. Captives and protected cells:

Businesses bundle up their risks before transfer to reinsurers or the capital markets.

Insurance company generally secure its financial security arising from policy claims through re-insurance and retrocession. These are the traditional methods of financial security, but through passes of time, there are various products available in the market, by utilising those a insurance company transfer its risks or pay its liabilities arising in future by utilising capital market instruments and derivatives. The Alternative Risk Financing market is a huge market.

This is not replacement in whole or part of the regular and traditional insurance market but it plays as an Alternate Market for the insurance Companies. It relegates insurance to just one of a complete range of risk financing techniques and is transforming the insurance industry to deal with hitherto uninsurable business risks

such as fluctuation in interest rates, rate in foreign exchange, temperature fluctuation and commodity prices. The new forms are financial hybrid and their intention is to cover a customised combination of:

1. Event Risks (Natural disaster etc.) and;
2. Financial Risks (Interest rates fluctuation, foreign exchange fluctuation, commodity prices, etc.).

Alternative Transfer includes alternative type of risk carriers such as:

- a. Self-Insurance;
- b. Risk Retention Groups;
- c. Pools; and
- d. Captive Insurance Company, rent-a-captive insurance company and protected cell insurance companies;
- e. Finite or Financial Insurance;
- f. Muti Year, Multi line, aggregate or blended or integrated programme.

Self-Insurance, Risk Retention Groups and Pools are largely US based concepts for ART.

1. Self-Insurance: It is a retained level of deductible. This can be through a mutual group or pool within an association of body to share retained risk. This can also be a fund constituted to address a loss if it were to occur. Self-insure is a risk management technique in which a company or individual sets aside a pool of money to be used to remedy an unexpected loss. Theoretically, one can self-insure against any type of damage (like from flood or fire) In practice, however, most people choose to purchase insurance against potentially significant, infrequent losses. Self-insuring against certain losses may be more economical than buying insurance from a third party. The more predictable and smaller the loss is, the more likely it is that an individual or firm will choose to self-insure.

For example, the owners of a building situated atop a hill adjacent to a floodplain may opt against paying costly annual premiums for flood insurance. Instead, they choose to set aside money for repairs to the building if in the relatively unlikely event floodwaters rose high enough to damage their building. If this occurred, the owners would be responsible to pay out-of-pocket for damages caused by a natural disaster, like a flood.

2. Risk Retention Groups: It was originated in US Market, it is a corporation owned and operated by insurance companies, that band together as self-insurers and form an organisation that is chartered and licensed as an insurer in at least one state of US to handle liability insurance. In the US it addresses gaps in liability cover for its members such as for medical malpractices.

A risk retention group (RRG) is a state-chartered insurance company that insures commercial businesses and government entities against liability risks. Risk retention groups were created by the federal Liability Risk Retention Act, a federal law created in 1986 (in US). A member of a risk retention group must be a business.

Risk retention groups are treated differently from traditional insurance companies. They are exempted from having to obtain a state license in every state in which they operate, and also are exempt from state laws that regulate insurance.

For example, a risk retention group is exempt from having to contribute to state guaranty funds, which can lower premium costs but can also increase the possibility that policyholders will not have access to state funds in the event of group failure. All policies issued by a risk retention group are federally required to include a warning indicating that the policy is not regulated the same as regular policies. Risk retention groups are mutual companies, meaning that they are owned by the members of the group. They can be licensed as a standard mutual insurer, but they can also be licensed as a captive insurer, which is a company organized by a parent company specifically to provide insurance coverage to the parent company.

Examples of risks protected by RRG policies include medical and legal malpractice, however, property damage caused by a flood is not a covered risk. Policies can be owned by a group of individuals, such as a law firm, but they can also be purchased by public universities or county administrations.

Members of an RRG must be engaged in similar activities or related with respect to liability exposures by virtue of any related or common business exposure, trade, product, service, or premise.

The number of risk retention groups is likely to increase when insurance is either unavailable or unaffordable. While they may be popular in some business climates, they still must follow certain state regulations, including non-discrimination and anti-fraud requirements. Risk retention groups may also be required to provide regulators with more information about their financials in order to ensure that they are financially solvent.

Benefits of Risk Retention Groups

- Program control.
- Long-term rate stability.
- Customized Loss control and risk management practices.
- Dividends for good loss experience.
- Access to reinsurance markets.
- Stable source of liability coverage at affordable rates.
- Multi-state operations.

3. Pools: A group of insurance companies that pools assets, enabling them to provide an amount of insurance substantially more than can be provided by individual companies to ensure large risks such as nuclear power stations are protected.

Insuranceopedia Defines An insurance pool is a gathering of insurance companies for a specific business endeavour, usually when a financial risk is too high for a single company to take on and can only be addressed through shared resources. When a financial risk is too high or even catastrophic for one company's financial status, companies can band together to form an insurance pool. These companies combine their resources as a form of risk management.

Companies might, for example, form an insurance pool to provide earthquake insurance in an earthquake-prone area. Or they may band together to provide insurance to people with serious medical problems.

Businesses can also create their own insurance pools rather than having insurance companies provide them with their insurance needs. They form, in essence, an insurance community and create their own insurance programs that might be more sustainable and affordable than the ones offered by insurance companies.

A "Risk pool" is a form of risk management that is mostly practiced by insurance companies, which come together to form a pool to provide protection to insurance companies against catastrophic risks such as floods or earthquakes. The term is also used to describe the pooling of similar risks within the concept of insurance. It is basically like multiple insurance companies coming together to form one. While risk pooling is necessary for insurance to work, not all risks can be effectively pooled in a voluntary insurance bracket unless there is a subsidy available to encourage participation.

Risk pooling is an important concept in supply chain management. Risk pooling suggests that demand variability is reduced if one aggregates demand across locations because as demand is aggregated across different locations, it becomes more likely that high demand from one customer will be offset by low demand from another. The reduction in variability allows a decrease in safety stock and therefore reduces average inventory.

For example, in the centralized distribution system, the warehouse serves all customers, which leads to a reduction in variability measured by either the standard deviation or the coefficient of variation.

The three critical points to risk pooling are:

- 1) Centralized inventory saves safety stock and average inventory in the system.
- 2) When demands from markets are negatively correlated, the higher the coefficient of variation, the greater the benefit obtained from centralized systems; that is, the greater the benefit from risk pooling.
- 3) The benefits from risk pooling depend directly on relative market behaviour. If two markets are competing when demand from both markets are more or less than the average demand, the demands from the market are said to be positively correlated. Thus, the benefits derived from risk pooling decreases as the correlation between demands from both markets becomes more positive.

4. Captives: is an insurer created and wholly owned by its sponsors to provide a facility to aggregate, insure and reinsure only their risks. This process is a legal and adopted in most of countries.

A captive insurance company is a wholly-owned subsidiary insurer that provides risk-mitigation services for its parent company or a group of related companies. A captive insurance company may be formed if the parent company cannot find a suitable outside firm to insure them against particular business risks, if the premiums paid to the captive insurer create tax savings, if the insurance provided is more affordable, or if it offers better coverage for the parent company's risks.

The insurance companies forming Captives as its wholly owned subsidiary and to lower company's insurance cost and provide more specific coverages, but also comes with additional overhead of running a distinct insurer. The main act of these Captives is to writing insurance policies of parent company or parent group companies. It does not insure any other company than its parent and parent group companies. This is a mode of tax savings for the parent companies.

A "captive insurer" is generally defined as an insurance company that is wholly owned and controlled by its insureds; its primary purpose is to insure the risks of its owners, and its insureds benefit from the captive insurer's underwriting profits.

These points do not clearly distinguish the captive insurer from a mutual insurance company. A mutual insurance company is technically owned and controlled by its policyholders. But no one who is merely a mutual insurance company's policyholder exercises control of the company? The policyholder may be asked to vote on matters requiring policyholder action. But this usually means that the policyholder will be presented with a proxy and advised by the board that runs the company as to how to exercise its vote. As soon as the insurance ceases, so does the policyholder's ownership status. The policyholder has not invested any assets in the insurance company and does not actively participate in running it.

Captive insurance is utilized by insureds that choose to:

- Put their own capital at risk by creating their own insurance company.
- Working outside of the commercial insurance marketplace.
- To achieve their risk financing objectives.

Reviewing these three essential features of captive insurance will help to clarify the nature of a captive insurance company.

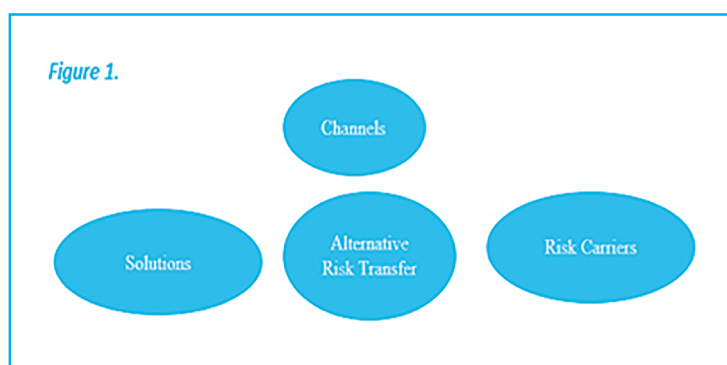
Features of Alternative Risk Transfer Products:

Alternative Risk Transfer techniques have evolved over the last fifty years, and it would seem they have endured

the test of time, and are not a fashion that easily fades away, but are a fashionable risk management tool that will carry the insurance industry into the twenty-first century. It becomes imperative that the origins of ART be traced. This probing will unravel the motivation behind the use of ART techniques, the forms it takes and the functionality of the ART products.

The key features of ART solutions that have evolved over the years can be enumerated as follows:

1. Tailored to specific problems.
2. Multi-year, multi-line cover.
3. Spread of risk over time and within a policyholder's portfolio. This is what makes the assumption of traditionally uninsurable risks possible.
4. Risk assumption by non- (re)insurers. Factoring into account these attributes, the domain of ART techniques is as depicted.



Firstly, alternative distribution channel to specialised direct insurers and reinsurers are for example companies' own captives, which are potential purchasers of traditional and/or alternative risk transfers products.

Secondly alternative solutions embrace finite risk products whose main aim emphasis is on financing rather than the transfer of risks. Multi-year contracts also play an increasingly important role.

These solutions combine different classes of insurance such as property and casualty risks. Although these products are not essentially new, they are considered to be alternative as they provide the basis for wider ranging covers. These solutions bundle together insurance, finance and in some cases general business risks as well, in the form of multi- year contracts with aggregate retentions.

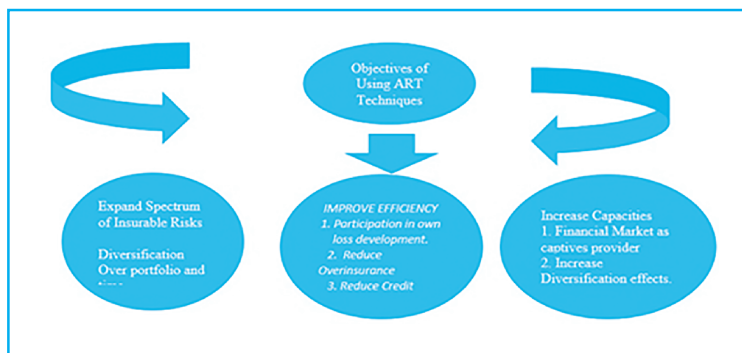
Other covers that fall into the category of alternative solutions include multi-trigger products, i.e., those which only come into play if insurance and non-insurance loss events occur simultaneously within a specific time frame as well as financing of losses at conditions agreed upon in advance (contingent capital.) Lastly, alternative risk carriers are ultimately capital market investors directly involved in insurance risks. These mainly concern insurance linked bonds and derivatives.

It is instructive to note that ART techniques have evolved to be used by insurance companies, to satisfy the insured and have also evolved to be used by reinsurance companies to satisfy the requirements of insurance companies. As such there are two forms of ART solutions, one peculiar to the cedant and the other peculiar to the insured, in other words, the two classes are:

- Insurance alternative risk transfer and
- Reinsurance alternative risk transfer.

Thus, the point of convergence for all ART techniques can be enumerated as in Figure 2 below.

Reasons for Use of ART Products:



The salient features of Alternative Risk Financing techniques are that the primary objective is that they are developed to complement those already in use in order to improve efficiency of risk transfer. The second goal is to expand the spectrum of insurable risks. The third goal is to generate additional capacity via the capital markets.

Increasingly since the 1960's larger corporations have created and used their own in-house operation, primarily as a means of co-ordinating insurance buying across the global enterprise. It is found that the earliest forms of ART programmes developed in response to the hard insurance markets. Companies turned to large deductible, loss sensitive rating and retrospective rating insurance programmes to gain independence. This led to the development of wholly owned offshore captives for large corporations and rent-a-captive for small to medium size companies. Please note that, in the hard insurance, high- interest environment of the early 1990's finite programmes emerged as another finance tool.

The motives behind finite programme were similar to captives with additional tax and financial benefits. In the main there are three types of such techniques:

1. finite risk insurance,
2. insurance derivatives and
3. securitisation of insurance risks directly on to the capital markets.

What is instructive to note is that finite programmes began the trend towards a more holistic approach to risk while facilitating the creation of sophisticated coverages that blurred the lines between financial and insurance markets.

Finite Risk insurances and financial insurances are an extension of conventional insurance in that the contracts typically last for three to five years and they often involve a packaging of different kinds of insurance including some risks that are difficult to place.

In addition, finite risk insurance usually poses a profit-sharing feature such that if the claims costs of the corporation vary unexpectedly there is some form of ex post adjustment in the premium cost. Because of its tailor-made character finite risk insurance represented an attempt by insurance companies to develop longer-term risk sharing relationships with corporations. As the name implies, there are limits to the degree of risk transfer in finite risk programs and thus they provide a mezzanine layer of risk financing between self-insurance and conventional types of insurance.

Insurance derivatives evolved in the mid 1990's. For a long time, insurance had been seen as a potential area of product development for derivatives, in part because a conventional contract can theoretically be seen as a put

option sold by an insurance company. However, the development of derivatives as a mechanism of risk financing for corporate risks has been limited for two main reasons.

1. Firstly, there are no suitable indices on which derivatives can be based.
2. Secondly derivatives require that the underlying economic variable being tracked is relatively homogeneous.

This requirement is often not met for corporate insurance risks since these represent a heterogeneous bundle of risks many of which may be specific to an industry.

In 2000 the only active traded derivative market, was the property catastrophe options market at the Chicago Board of Trade and the Catastrophe Risk Exchange (CATEX) in New York. More recently weather derivatives have been introduced based on indices of rainfall, snowfall and temperature.

One of the latest ART solutions relates to the securitisation of insurance risks directly onto the capital markets. Growth there is likely to continue in the longer term especially for longer-term potential losses facing corporations and for important projects. Two mechanisms for securitisation have evolved, one based on bond instruments and the other on equity instruments. Specialist divisions of insurers and brokers have often collaborated with investment banks to develop tailor made products for corporations to transfer their risks on to the capital markets.

The risk securitisation is likely to expand in the future and companies might switch from bond based to equity-based instruments. The theoretical advantage of equity-based instruments is that they are a form of Just-In-Time (JIT) capital, since capital is only raised when a large loss takes place. Equity based products extend the concept of contingent capital that exists in conventional insurance and thus has the effect of removing the capital cost constraint imposed on insurance and reinsurance companies.

The Alternative Risk Transfer sector has continued to grow in leaps and bounds over the years. All of these classes have exhibited significant and continuous growth, despite the soft market conditions prevailing.

ART solutions are an innovation that will stand the test of time. They are not a fashion that is going to fade away, but will endure forever. They are a must buy for corporates, insurance and reinsurance companies. The growth of the insurance industry is going to be largely underpinned by the development of the ART segment. Insurance companies should embrace ART techniques as they the crown jewels in the risk management arena. They must be best understood as compliments rather than substitutes of the traditional insurance products. The insurance companies must realise that the paradigm is shifting from indemnity to that of value creation. There must be a realisation that 'a risk is a risk' and as such it must be treated as such. The very basis of insurance is to provide risk protection.

In a highly competitive environment where other financial players such as banking institution are waiting on the wings, to invade the insurance terrain, it would be folly for insurance companies to decline risks and categorise them as uninsurable. This would create gaps in the market and they would have afforded the other players to attack their segment. There have been lost opportunities, which should never have been. It is important for insurance companies to shift not all but major part of their risks on these ART products. By shifting some part of risk on capital market products they will improve their profitability and create value addition in their capital exposures. The ART products will provide a wide an opportunity to the insurance companies to retain more and more risk exposures and cede less premium to re-insurers, this way they retain and increase their solvency margins and profitability respectively.

8.5.4 Risk Reduction:

There are many strategies to deal with the risk. The particular risk control program that works best for an individual will depend on the circumstances:

Avoidance of risk: This is the simplest of the risk control techniques. Do not get into something which has a risk. It is possible to avoid certain types of risk altogether. That is, remove the possibility of losses associated with a given risk by not exposing to that risk. In generally, this strategy is appropriate for certain risks that are of both high frequency and high severity. For example, if someone is engaged in the sports of hang-gliding for adventure sports, the frequency and severity of accidents that occur are high. Thus, the best course of action to ensure that one does not die or suffer injury while hang gliding is to avoid hang gliding completely. Though it is simplest form of risk control, it is not an appropriate strategy for dealing with most of the risks that an individual face. For example, if an individual wants to ensure that he will never suffer financial loss from a car accident. He can avoid the risk by never driving a Car. While this certainly would eliminate the possibility of a loss, it is clearly not a viable option for those who must drive in order to function on a daily basis. That is why most of us take a Motor insurance to combat the financial risks associated with driving rather than leaving driving.

Risk avoidance is not performing any activity that may carry risk. A risk avoidance methodology attempts to minimize vulnerabilities that can pose a threat. Risk avoidance and mitigation can be achieved through policy and procedure, training and education, and technology implementations.

For example, suppose an investor wants to buy stock in an oil company, but oil prices have been falling significantly over the past few months. There is political risk associated with the production of oil and credit risk associated with the oil company. If an investor assesses the risks associated with the oil industry and decides to avoid taking a stake in the company, this is known as risk avoidance.

There are different examples of practices that managers adopt to avoid risk. Such measures may include;

- ⦿ A company may realize that sending workers to conduct research in a hostile area may result in bodily harm to employees, which may expose the company to endangerment claims. Therefore, management may forgo such research, which may have presented enormous profit opportunities by improving efficiency.
- ⦿ A trader may realize that trading with a specific supplier exposes them to exchange rate volatility, usually seen in international business. The trader, therefore, chooses to change their supplier to one who trades using the currency the trader uses.
- ⦿ A company may choose not to invest in a war-torn country because it may cause a loss of the capital invested.

Loss control: Loss control refers to minimising the severity of losses if they occur. This could mean simply relocating valuables from home to a safe deposit locker at a bank to minimise any losses that could result in home from fire or theft. The person may still suffer from financial loss if the home burns down or if thieves burgle the house, particularly if the person does not have home owners' insurance, but those losses will be less severe that if he had not moved some of the valuable belongings.

The insurer should implement necessary measures to control and mitigate the identified risks. Risk control/mitigation measures include setting appropriate standards and limits that are clearly documented and assigning limits to relevant staff that are commensurate with the experience and competence of the respective individual

An insurer should verify that the proposed product is consistent with the insurer's risk strategy and policies. It should also scrutinise assumptions made in product proposals about likely consumer behaviour and market reactions and verify these assumptions where appropriate.

The insurer should ensure that the premium and compensation structure for intermediaries are consistent between products of similar features/duration and distribution channels so as to minimise possible lapse and re-entry or churning, and channel conflicts. This is particularly relevant for life insurance business.

The insurer should ensure that the product proposals include the following information to assist the Board or senior management in making informed decisions:

- ◉ scope and level of coverage proposed for the product including options and guarantees, if any;
- ◉ risk exposure limits (which can be defined by premiums, sum insured, probable maximum loss or other risk measures and may also include interim limits to manage new product growth);
- ◉ reinsurance protection;
- ◉ pricing methodology;
- ◉ delegation of authority for underwriting and claims;
- ◉ underwriting and claims assessment criteria;
- ◉ investment strategy;
- ◉ projection of sales, expenses, profitability and solvency under different scenarios to test the sensitivity of results to different operating conditions. For example, life insurance products often contain guarantees, particularly on investment performance, which can significantly add to the risks written;
- ◉ distribution method; and
- ◉ ability of existing or proposed administrative systems and processes to handle the new or enhanced product.

The insurer should ensure that the potential risks identified in the above are adequately addressed under a risk management framework that would cover the key issues when introducing a new product, such as clarity of contract wordings, accuracy and transparency of promotional materials, skills and expertise of the distribution channels, etc. Where such a framework is not in place, the insurer should ensure that the product proposal itself has adequately addressed the relevant risks identified.

The insurer should ensure that there is proper documentation of the detailed product proposal, the product approval authority levels, the decisions made by the authorised personnel or committee as well as the rationale and follow-up actions. In particular, when a decision has been made by the appropriate approval authority to accept a proposal which does not meet the risk tolerance or profit objectives of the insurer, the approval and rationale for such a decision should be clearly documented.

The insurer should have clearly articulated procedures for withdrawal and re-pricing of existing products when pre-determined criteria are triggered, such as when it is no longer economically viable to sell the product.

Risk is present in every organization around the globe, which is why we believe having a formal risk management program is so important. What does that mean? It means that every organization should develop a practical way of identifying, monitoring, and managing risks that could negatively impact the organization.

The first key step is to identify the risks that arise from what we own (property), what we do (liability), and who does it (personnel). We also believe all organizations should thoroughly analyse their business risks, which can't be insured. After we have identified all we insurable risks, they should be analysed to determine the likelihood and severity of a loss. After the identification and analysis are complete, it's time to utilize one, or a combination of, the following six essential loss control strategies aimed at reducing the possibility of a loss and/or limiting the severity.

Avoidance: By choosing to avoid a particular risk altogether, you can eliminate potential loss associated with that risk. For example, builders can choose to shut down construction operations in inclement weather; manufacturers can choose to halt production of faulty products before selling them to customers. Although risk avoidance is a simple method for controlling losses, this strategy isn't always practical because it can result in lost revenue potential.

Prevention: Accepting that certain risks are unavoidable, we can implement preventative measures to reduce loss frequency. For example, installing video surveillance cameras can prevent the frequency of theft in stores. Lowering a highway speed limit can reduce the number of automobile accidents on a specific road. Loss prevention measures break the sequence of events leading to a loss and thus make a loss less likely to occur.

Reduction: Reduction measures can be applied before and after a loss occurs to minimize the severity of potential losses. For example, erecting firewalls to limit damage from a fire is a pre-loss measure; activating a fire detection/

suppression system is a post-loss measure. The physical and financial impacts of a loss are reduced by implementing this strategy.

Separation: By isolating loss exposures from one another, we can minimize the adverse effects of a single loss. For example, storing inventory at two separate warehouses will minimize losses if one facility is destroyed. Separation of exposure units can reduce a business's dependence on a single asset, activity, or person, making individual losses smaller.

Duplication: Keep backups, spares, or copies of critical property, information, or capabilities in reserve to use when a primary asset is damaged or destroyed. For example, store information on a backup server to use if the original server fails. Like separation, duplication can reduce a business's dependence on a single asset, activity, or person, making individual losses smaller.

Diversification: Spread loss exposures over numerous projects, products, markets, or regions. For example, a business can enter into different geographic markets. If one market becomes too competitive, the other markets may still generate enough profit for the business to continue operations. Diversification prevents a single event or series of events from destroying a large percentage of the organization's assets.

Loss control is necessary to ensure long-term sustainability and profitability.

8.5.5 Risk Review and Monitoring:

There should be an effective monitoring system to track whether any risk indicators have been triggered, and to ensure that risk standards and limits are complied with as intended and any deviation is duly approved and documented. The insurer should also establish clear procedures to investigate non-compliances with the intent of preventing such incidents from recurring. The consequences for non-compliance with established limits should be clear and pre-determined.

The insurer should regularly review whether it has correctly assessed the impact and probability of material risks and effectively treated or mitigated the risks, including identification of lessons that could be learned for future assessment and management of risks.

For example, the insurer should put in place an effective system to gather underwriting and claims information to identify any emerging trend and provide feedback to the relevant business units so that these can be taken into account in any subsequent marketing, product development, pricing, underwriting, reserving and reinsurance management decisions.

An insurer should put in place a structure setting out the reporting lines and roles of business units and personnel involved, and procedures and risk indicators to monitor the product implementation and performance after its launch. These may include:

- ⊙ comparing between key performance indicators and business plan, and actual versus expected results;
- ⊙ monitoring adherence to the insurer's policies and procedures as well as regulatory requirements;
- ⊙ monitoring changes in risk profiles and analysing loss experience (particularly large and catastrophic losses);
- ⊙ monitoring changes in policyholder's behaviour leading to higher lapse rates or deteriorating claims experience; for example, prolonged economic recession causing more policyholders to lapse/surrender their life insurance policies or to submit fraudulent property related claims;
- ⊙ monitoring changes in the investment and economic environment which may affect the performance of the portfolio;
- ⊙ monitoring the number and nature of complaints;
- ⊙ monitoring changes in tax, regulatory reserving and capital requirements; and
- ⊙ conducting internal audit reviews and actuarial reviews.

Role of an Actuary in Insurance Business

8.6

The operation of insurance companies is largely based on the degree of risk they undertake and the returns that they generate from it. Which is why, they require employing advanced analytical and statistical skills to gauge risks and returns associated with each proposal they receive. Here is where an insurance actuary comes into the picture.

An actuary is a professional who specialises in the field of analysing financial risks by implementing statistical, financial and mathematical theories. In insurance, actuaries aid in assessing risks which help companies in the estimation of premiums for their policies.

It is ideal for insurance companies to create policies that bear minimal risk and can generate stable returns. Estimating risk and return from each proposal also in turn aids in assuring policyholders that their claims will be settled.

With regards to insurance, actuarial practices involve analysing factors related to a customer's life expectancy, construction of mortality tables that help one to have a measurement of predictability and offering insight to brokers.

Actuarial science mostly finds its application in the life insurance mortality analysis. However, they can also be applied in case of other general insurance fields like property and liability insurance.

Sometimes recommendations for the determination of premium for insurance policies made by actuaries can also have a positive impact on the behaviour of policyholders. For instance, premium payable by non-smokers for life insurance policies is often significantly lesser than that for smokers. This might push individuals to quit smoking to avail their life insurance policies at a lower premium.

As per the Appointed Actuary regulations put forth by the Insurance Regulatory and Development Authority of India, any insurer or insurance company should mandatorily appoint an actuary to manage financial risks and uncertainty of the insurance business.

To be appointed as an actuary with any insurance company, an individual has to fulfil the following criteria, as put forth under regulations:

- He/she should be a resident of India.
- Should be a fellow member as per the Actuaries Act, 2006.

In the case of life insurance:

- He/she should have passed a specialisation subject related to life insurance. Currently, specialisation refers to a Specialist Application subject as put forth by the Institute of Actuaries in India.
- A prospective candidate should have at least 3 years of post-fellowship experience pertaining to the annual statutory value of life insurers.
- A minimum of 10 years' experience in the life insurance industry, out of which, at least 5 years should be that of the post-fellowship experience.

In the case of General Insurance:

- He/she should have passed a specialisation subject related to general insurance. As per the Institute of Actuaries in India, currently, specialisation refers to a Specialist Application subject.
- He/she should have at least 1 year of post-fellowship experience pertaining to the annual statutory value of a general insurer.
- A minimum of 7 years' experience in the general insurance industry, out of which, at least 2 years should be that of the post-fellowship experience.

In the case of Health Insurance:

- He/she should have passed a specialisation subject related to health or general insurance. Similar to the above two categories, as per the Institute of Actuaries of India, currently, specialisation refers to the Specialist Application subject.
- He/she should have at least 1 year of post-fellowship experience pertaining to the annual statutory value of a health or general insurer.
- A minimum of 7 years of experience in the general or health insurance industry, out of which, there must be at least 2 years of post-fellowship experience.
- Apart from these, an individual can be eligible for the position of Appointed Actuary with any insurance company if they comply with the following criteria:

Should be an employee of an Insurance Company?

- Is not already appointed as an actuary with any other Insurance Company in India.
- Is not over the age of 65 years.
- Possesses a Certificate of Practice from the Institute of Actuaries in India.
- Has not committed any professional breach or is not guilty of any other misconduct.
- Individuals satisfying the above criteria can be appointed as an actuary for insurance companies by the IRDA.

The Institute of Actuaries in India is a professional body for actuaries in India. Formed in the year 1944, the Actuarial Society of India (ASI) was converted into the body corporate of the Institute of Actuaries in India under the virtue of the Actuaries Act, 2006.

Objectives of ASI:

- To propagate the advancement of actuaries in India.
- Facilitating research on the subject relevant to actuarial sciences.
- Opening avenues to promote communication between different members of the profession.
- Providing the necessary guidance for those studying actuarial sciences in India.
- The Actuarial Society of India is also one of the founding members of the International Actuarial Association, which is the organisation for all actuarial bodies across the world.

Sum Up:

Insurance companies know how to protect their clients' homes, cars, and businesses but protecting the personal information of those customers is a bit harder to assure.

While the insurance industry focuses on risk-based analyses for its own underwriting programs, firms also need to apply those same Risk Management Processes to securing customer information.

The core risks facing an insurance company are, "underwriting, credit, market, operational, liquidity risks, etc." The types of data that must be protected via risk management, and classifies such data as "non-public" information.

Types of Protected Data:

- Social Security number / Aadhar Number / PAN Card Number.
- Driver's license number or non-driver ID number.
- Account number, credit card, or debit card number.
- Security code, access code, or password that enables a consumer to access an account at a financial institution.
- Biometric records.
- Information obtained from a healthcare provider regarding a customer's past, present, or future physical, mental, or behavioural health or condition; or any such information about a customer's family members.
- Information obtained from a healthcare provider regarding care provided to the customer.
- Information obtained from a healthcare provider about payment for the provided care.
- Any business information that can materially affect a business in an adverse manner.

In short, almost all the information that helps an insurance company determine the premium for a consumer's insurance policy is non-public, and should be protected.

A Risk Management is an assessment of all the potential risks to organization's ability to do business. These include project risks, function risks, enterprise risks, inherent risks, and control risks.

For insurance companies this should be nothing new; the goal of any insurance underwriter is to properly assess risk by applying actuarial science to assign a monetary value required to properly insure against that risk.

They must not, however, make the mistake of believing that risk management is only valid where their customers are concerned. Insurers must protect themselves as well.

Insurers collect a variety of personal data that cybercriminals can leverage to commit fraud and various other crimes. Thus, proper risk assessment and management are extremely important for this industry.

Five steps to perform an effective risk assessment:

Step 1: Designate a Risk Manager: The risk manager can be an employee, several employees, or a vendor responsible for the overarching information security program.

Step 2: Identify Reasonably Foreseeable Internal and External Threats: These threats arise from potential unauthorized access, transmission, disclosure, misuse, alteration, or destruction of the protected information. Moreover, the threats identified need to incorporate those from internal systems or third-party service providers.

Step 3: Assess the Likelihood and Estimate Damage: Considering the private nature of the information that insurance companies collect, they must assess the likelihood that cybercriminals will target the company's databases and estimate potential financial, reputational, and legal risks.

Step 4: Review Current Policies, Procedures, Systems, and Safeguards: Determine how well the current controls protect data; this provides insight into additional cybersecurity needs. When reviewing information systems, insurance companies need to look at all aspects of their controls. To do this, they must review and assess network and software designs first.

They also need to assess the risks posed by their current information classification, governance, processing, storage, transmission, and disposal procedures. Moreover, they need to understand how well their current detection, protection, and response processes secure the information from attacks, intrusions, and system failures. Finally, they need to assure continuous, relevant training for employees and managers.

Step 5: Implement Procedures and Safeguards: Once identify shortcomings in cybersecurity controls, implement mitigation measures as necessary to reduce the risk to whatever tolerance has been defined by board.

Beyond that, the effectiveness of cybersecurity controls will change as insurance companies incorporate new technologies and as cybercriminals evolve their threat methodologies. So, insurance firms should re-perform their risk assessment at least once a year to assure continued control effectiveness.

How Does Risk Management Differ from Risk Assessment?

The risk assessment measures various risks and helps an insurance company define the ones that are most significant. Enterprise Risk Management (ERM) for insurance companies means monitoring and updating controls for mitigated or accepted risks, unless the company decides to engage in a risk transfer.

Steps to Risk Management for Insurance Professionals: Insurance firms face cybersecurity regulation at the state and national level, plus extensive security expectations from the banks that work with insurance firms. Adding more complications, state-level security regulation will be mostly similar, but not identical, across all jurisdictions.

When insurance companies and claims adjusters properly manage risk, it gives them an advantage, not only by providing loss control against costly data breaches, but also by protecting insurance brokers from compliance violations and enhancing their credibility with clients looking for insurance products that can protect the things most precious to them.

Five steps to Information Technology Risk Management for Insurance Companies:

Step 1: Design an Information Security Program: An information security program should be appropriate for the insurance professional's size and complexity. As part of the ERM approach, a company may choose to mitigate the risks itself or transfer the risk to a vendor. If the company outsources services, however, it needs to assure that the outsourcing partner also protects sensitive information.

Step 2: Choose Appropriate Security Controls: Similar to other prescriptive standards, a series of controls that can help guide actuaries. The 11 controls used by risk analysts are:

- Create authentication and access controls.
- Identify critical data, personnel, devices, information technology (IT) systems, and facilities.
- Restrict physical access.
- Incorporate at-rest and in-transit encryption.
- Adopt secure software development practices.
- Modify the information systems to maintain compliance with the security program.
- Incorporate controls, such as multi-factor authentication, for access.
- Test and monitor systems and procedures regularly.
- Create audit trails to detect and respond to cybersecurity events that enable reconstruction of material financial transactions.
- Implement measures to protect against destruction, loss, or damage from natural disasters, fire, and water damage, or technological failures.
- Create secure disposal and records retention procedures.

Step 3: Cybersecurity in ERM: An ERM-based approach to cybersecurity, the model law specifies that the enterprise risk management process should incorporate information security.

Step 4: Stay Informed: This risk management procedure focuses on sharing information about emerging threats and vulnerabilities. As part of continuous monitoring, insurance companies should be aware of new threat vectors. As part of informing internal and external stakeholders, they need to establish clear communication procedures.

Step 5: Cybersecurity Training: The model law focuses on both initial training and continued, updated training to reflect new risks to the data ecosystem and environment. Repeating the "stay informed" procedure highlights the importance of employee cyber awareness.

Exercise

A. Theoretical Questions

⊙ Multiple Choice Questions

1. ____ increases the frequency of loss.
 - (a) Peril
 - (b) Subjective risk
 - (c) Hazard
 - (d) Objective risk
2. ____ hazard increases the probability of loss due to dishonesty or character defects of an insured person.
 - (a) Moral
 - (b) Morale
 - (c) Legal
 - (d) Physical
3. Master policy is issued for _____.
 - (a) Term insurance schemes
 - (b) permanent insurance
 - (c) individual insurance
 - (d) group insurance schemes
4. Subrogation means _____.
 - (a) something of monetary value
 - (b) to make good loss
 - (c) payment of premium
 - (d) transfer of rights of an insured to another person
5. ____ risks happen within a stable environment and are constant over an observed period of time.
 - (a) Speculative
 - (b) Pure
 - (c) Dynamic
 - (d) Static
6. Which among the following is not a pure risk?
 - (a) Personal risk
 - (b) Property risk
 - (c) Loss of income risk
 - (d) Strategic risk
7. Which of the following method reduces the chance of loss to zero?

- (a) Risk Transferring
 - (b) Risk avoidance
 - (c) Risk retention
 - (d) Risk reduction
8. ____ refers to the manner in which the risk control measures that have been implemented shall be financed.
- (a) Risk financing
 - (b) Risk retention
 - (c) Risk transfer
 - (d) Risk sharing
9. ____ is the most famous tool of risk management
- (a) Certainty risk
 - (b) Insurance
 - (c) Loss prevention
 - (d) Uncertainty risk
10. ____ is still the most leading channel in India for distributing insurance products.
- (a) Brokers
 - (b) Agency power
 - (c) Insurance market
 - (d) National market
11. An insurance agent represents the ____.
- (a) Insured
 - (b) Insurer
 - (c) Government
 - (d) Adjustment bureau
12. ____ is a whole life policy that insures two lives with the proceeds payable on the second (later) death.
- (a) Survivorship life insurance policy
 - (b) Group life insurance
 - (c) Joint life insurance
 - (d) Prepaid insurance
13. The ____ is formed with four subsidiary companies.
- (a) Life insurance Corporation of India
 - (b) ICICI Prudential Life Insurance Company
 - (c) General Insurance Corporation of India
 - (d) Bajaj Allianz General Insurance Company

14. Which of the following is not a concern of the insurance regulatory framework?
 - (a) It has to safeguard the interests of the customers.
 - (b) It has to safeguard the interests of the stakeholders.
 - (c) It has to ensure the financial soundness of the insurance industry.
 - (d) It has to help in the healthy growth of the insurance market.
15. Which of these is not an element of life insurance?
 - (a) Grace period
 - (b) Nomination and assignment
 - (c) Policyholder
 - (d) Paid-up value

Answers:

1.	(c)	2.	(a)	3.	(d)	4.	(d)	5.	(d)
6.	(d)	7.	(b)	8.	(a)	9.	(b)	10.	(b)
11.	(b)	12.	(a)	13.	(c)	14.	(b)	15.	(c)

⊙ State True or False

1. Earthquake happens due to a hazard present.
2. The contract of insurance is usually applicable only to pure risks.
3. According to the holistic view, risk management must only cover insurable risks.
4. In a private sector company, usually the transfer of risk is done through a contract and they are voluntary.
5. IRDA is basically a team of eight members.
6. IRDA supports competence in the insurance industry.
7. Life insurance in family life does not provide needy survivors with financial help in their grief.
8. The person who makes the assignment is called Assignee and the person to whom the policy is assigned is called Assigner.
9. Permanent life insurance helps to keep the premiums same every year and provides a guarantee of the premiums when the policy is first purchased.
10. Money back policies are issued for a period of 15, 20, 25 years only.

Answers:

1.	F	2.	T	3.	F	4.	T	5.	F
6.	T	7.	F	8.	F	9.	T	10.	T

⊙ Fill in the blanks

1. ____ as the number of exposures increase.
2. ____ has an inherent tendency to amplify the degree of risk.
3. The different degrees of uncertainty can be represented on a straight line called ____.
4. In ____ method of identifying risk it is difficult to identify the industry-specific risk, as it is general

in nature.

5. Evaluating the risk needs to be measured in two dimensions that is _____ and _____.
6. In _____ strategy, risks are retained in a proportion so that the overall risk is reduced.
7. _____ strategy involves two parties to reduce risk.
8. _____ finances the loss by retaining the operating revenues and earnings.
9. _____ is transferred from one entity to another entity in different ways.
10. _____ is a process to manage dangerous functions and policies that cause losses to an organisation.
11. _____ is a part of the overall agenda for managing the risk and safety of a construction project.
12. In insurance, the _____ occurs in “excess-of-loss” or “stop-loss” contracts.
13. _____ safeguards the financial segments from political risks.
14. The _____ division has marvellous growth potential in the insurance market.
15. Public insurance is also known as _____ helps the people below the poverty line or people who cannot face their basic risks by themselves.
16. Involuntary insurance comes under _____ sector.
17. IRDA is permitted to oversee the performance of the _____ Committee.
18. _____ have to analyse risk by gathering information from various sources and write policies to manage it.
19. Loss adjustors should be experts in _____ and _____ skills.
20. According to the IRDA Regulation, the _____ has to be identified as the income over the contract period or the period of risk, whichever is suitable.
21. Life insurance not only protects a person from _____, but also is a good mean of _____ for the people.
22. The purpose of life insurance is to provide _____ against the losses.
23. _____ is the amount of insurance payable by the policyholder.
24. Term life insurance policy premiums are _____ than those for whole life insurance.

Answer:

- | | |
|----------------------------------|-----------------------------------|
| 1. Objective risk | 13. Consumer protection |
| 2. Hazard | 14. Health insurance |
| 3. Continuum | 15. Social insurance |
| 4. Questionnaire | 16. Public |
| 5. Loss frequency, Loss severity | 17. Tariff Advisory |
| 6. Risk combination | 18. Underwriters |
| 7. Risk transfer | 19. Analytical, people management |
| 8. Risk retention | 20. Premium |
| 9. Risk of loss | 21. Future risks and savings |
| 10. Risk management | 22. Financial protection |
| 11. Insurance procurement | 23. Premium |
| 12. Pay off | 24. Less costly |

NOTES

This image shows a full page of white paper with horizontal dotted lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.