



**MS-403 (PART-I)**

School of Management Studies and Commerce  
**Project Finance**

**MS-403 (PART-I)**



ISBN: 978-93-85740-29-9



School of Management Studies and Commerce  
**Project Finance**

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**DEPARTMENT OF MANAGEMENT STUDIES**  
**Block I Project Finance: An Introduction**  
**Block II Assessing Risks in Project Finance**

## Project Finance



### Block – I

**Block Title- Project Finance: An Introduction**

### Block – II

**Block Title- Assessing Risks in Project Finance**

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Cover Page Image &  
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Retrieved from

<https://pixabay.com/photos/money-profit-finance-business-2696219/>

Last accessed 15/1/2021

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**ISBN** : 978-93-85740-29-9

**Copyright** : Uttarakhand Open University

**Edition** : 2020 (Restricted Circulation)

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**Published by** : Uttarakhand Open University, Haldwani, Nainital – 263139

**Printed at** : Saharanpur Electric Press, Bomanji Road, Saharanpur

**Printed Year** : 2023

**Printed Copies** : 33

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**Course Name: Project Finance**

**Course Code-MS 403**

**Course Objective:** This course aims at making the student learn the tools and techniques for effective planning and management of projects.

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**Unit II The Project Finance Markets**

**Unit III Role of Advisors in Project Finance**

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**Unit V Valuing the Project and Project Cash Flow Analysis**

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## **Unit XXI Contemporary Issues in Project Finance**

### **Suggested Readings:**

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**Block I**  
**Project Finance: An Introduction**

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# UNIT 1 PROJECT MANAGEMENT: AN INTRODUCTION

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- 1.1 Introduction
- 1.2 Objectives
- 1.3 Concept of Project
- 1.4 Essential of A Project
- 1.5 Project Classification
- 1.6 Feasibility Study
- 1.7 Project Management- Understanding the Fundamentals
- 1.8 Objectives of Project Management
- 1.9 Project Environment
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## 1.1 INTRODUCTION

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To understand Project Management, one should get through the world of 'project' i.e., what makes a real project. To apply project management techniques, one must have a project in hand first. Essentially projects must combine specific components. Not essentially what a project manager does in one company is same as what he does in another company. Anyone responsible for completing a time bound task successfully in a cost-effective manner can be called a project manager.

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## 1.2 OBJECTIVES

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After reading this unit, you will be able to;

- Know the concept of Project and its classification.
- Understand the Project Environment.
- Identify Objectives of Project Management.
- Assess the stages of Project Management Life Cycle Model.

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## 1.3 CONCEPT OF PROJECT

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To understand how a project is conceived one has to look upon the idea which must be technically realistic, economically practical, politically suitable and socially acceptable. A project, therefore is not always has a physical objective, or it is only the final result. It is an ongoing continuous process whether it is subjective to construct a water dam or merely complete an election. It is initiated to attain a mission, once that pre planned mission is achieved within a defined time span, the project is completed. A Project can be defined as a time bound sequence of unique and interrelated activities that are intended to achieve a common goal within a defined budget fulfilling specific parameters.

According to the Project Management Institute, USA a project is "a one shot, time - limited, goal-directed, major undertaking, requiring the commitment of varied skills and resources." Alternatively it also defines a project as "a combination of human and non- human resources pooled together in a temporary organization to achieve a specific purpose." Nevertheless, as mentioned earlier the approach and activities to achieve that goal makes one project different from another.

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## 1.4 ESSENTIAL OF A PROJECT

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*One Goal-* Project without an objective is aimless and incomplete. Once the goal is attained the project comes to a close.

*Specified Time-* To complete a project a fixed time limit must exist. A project is called successful if it is completed within the time limit.

*Single entity-* A project is a single entity and is hand over to a responsibility centre.

*Team exercise-* Diverse field of experts are required to complete a set of tasks which is not possible without a team work.

*Life cycle-* A project is gradually progressed through different life phases such as infancy, growth, saturation and decay.

*Exclusive activities-* The set of activities is unique in itself for one single project. The time limit, budget, speciality, resources etc are unique that makes a project.

*Successive standard* - The complexity during the functioning a project cannot be anticipated. The details of different stages of a project keeps on refining during the life of a project.

*Customisation*- The customer lay down various requirements changes and limited freedom within which the projects should be executed.

*Connected activities*- Varied but inter-related set of contribution made by different resources are the normal features of project that also makes it a bit complex.

*Sub contract*- A large and long cycled project requires the help of subcontractors. Subcontracts is assigned keeping the size and other complexity of the projects the bigger and complex the projects higher the extent of subcontracting.

*Risk and uncertainty*- Risk and uncertainty are two basic components that cannot be separated with any business activity. The scale of risk and uncertainty will depend on how a project has exceeded through different life cycle stages.

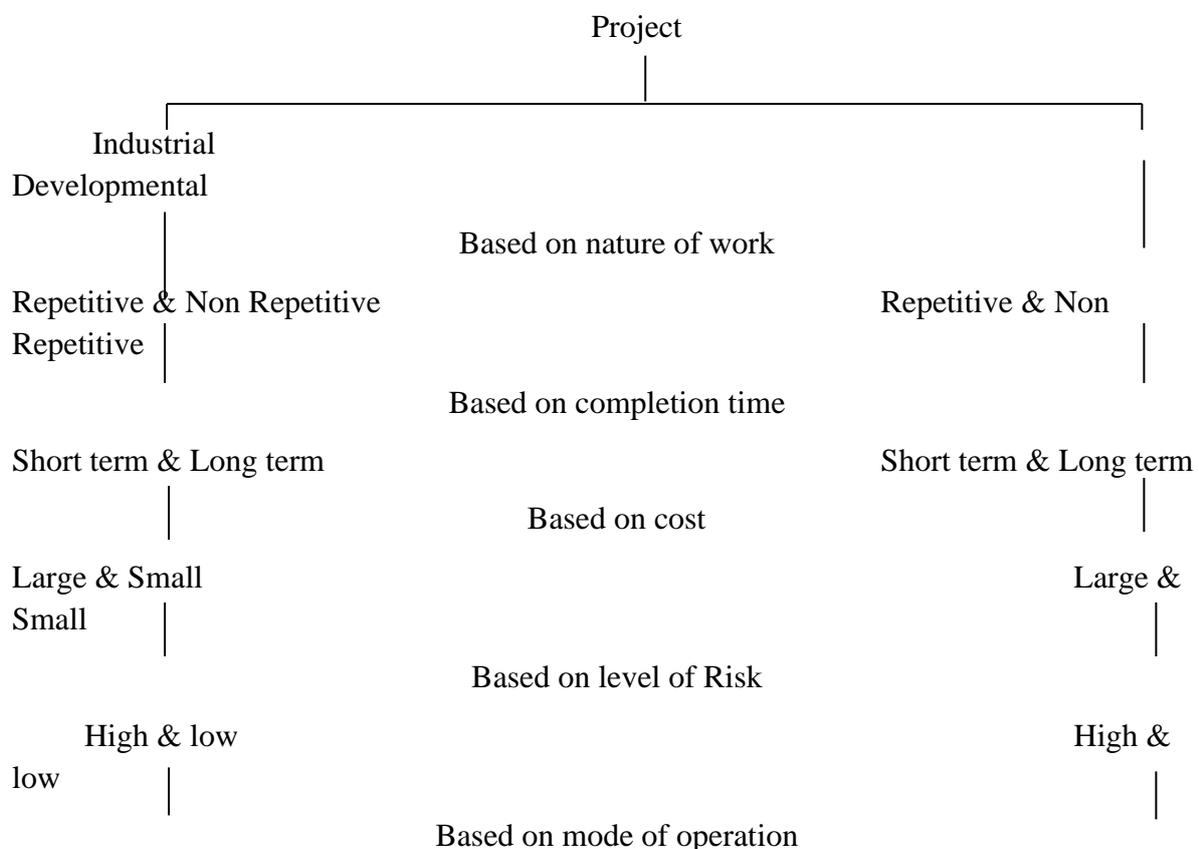
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## 1.5 PROJECT CLASSIFICATION

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Based on project objectives classification can be made of two broad groups

- a) Industrial project and
- b) Developmental Project



build, build-operate-transfer  
transfer

build, build-operate-

**Fig 1.1 Classification of Projects**

### **Difference between Commercial/Industrial & Developmental Projects**

<b>Industrial Projects</b>	<b>Developmental Projects</b>
Limited scale	Large scale
Normally private entrepreneurs hold the ownership	Moderate Government, Public Sectors, NGOs
Rate of return is high as compared to developmental bank	Moderate & low-rate profitability.
Stringent debt equity norms	works on higher debt-equity norms
The source of funds are domestic stock market and financial institution	Funds are borrowed from international organizations such as world banks etc.
Repayments of funds are done in 5 to 10 years	Repayments duration may extend up to 20 to 30 years

## **1.6 FEASIBILITY STUDY**

A feasibility study finds out the possibilities of success or failure of a project. It is the initial step before taking any step forward to start the proposed plan. A Feasibility study is made to assess the practicality of the project. Feasibility study enables us to thoroughly understand all the features of the project so that the project manager can become familiar with any possible issues that may occur during the execution of the project. The study also estimates the funding requirements, marketing strategies, that could help to convince investors/banks to get the required investment.

A feasibility study evaluates a project's chance of success. For a successful project following five types of feasibility study are considered.

1. *Legal Feasibility*: One has to ensure the legal and ethical conformity in advance so that any hassels can be avoided on the later stage. This may involve environmental issues, social media laws etc.

2. *Economic Feasibility*: Economic feasibility analysis the return on investment of the total capital employed in a project. This is a detailed cost to benefit evaluation that calculate monetary value of each cost and benefit to determine the economic viability of the project.

*3. Technical Feasibility:* Technical feasibility is a process to validate the technical resources and capabilities. It is a study of the project's input resources in term of fields, process, etc. The technical feasibility study must necessarily support the financial story of the firm. It helps the organization to determine the technical capabilities and whether the staff is suitable enough to transform ideas into working system. The study also scrutinizes the requirements of other hardware, software, of the proposed plan.

*Operational Feasibility-* Operational feasibility studies how well the operational organizational needs can be fulfilled once the project is completed. It analysis the extent of operational satisfaction organization has achieved after the completion.

*Scheduling Feasibility-* Scheduling feasibility studies determine the appropriate time that is required to complete the proposed project. This is one of the most important feasibility studies before a project is undertaken, since an inappropriate decision can lead to a failure or a substantial increase in cost.

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## 1.7 PROJECT MANAGEMENT- UNDERSTANDING THE FUNDAMENTALS

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The above-mentioned characteristics of a project involve meticulous approach to guarantee a successful completion of a project. Establishment of each of this project is unique by itself and all set of special efforts that makes it complete and successful may be termed as project management. Success of a project depends on the fulfilment of the below parameters.

Projects completion

Completion within budget

Completion within decided time

Performance up to satisfaction

In other words, Project management consists of various interrelated activities which have precedence relationship. The Project management Institute (PMI) defines project management as follows: "The application of knowledge skill tools, and techniques to project activities to meet the project requirements."

### **Project Management basically answer the following**

The detailed description of business situation that is being dealt with.

Things to be done

A goal that is expected to be achieved

Execution of plans to attain the pre-set objectives

Recognition of the goals

Performance evaluation and feedback of the project.

Hence, Project Management can be defined as a set of means, models, and structured approach that utilizes the suitable client participation to deliver proper solution or fulfil client demands that matches with expected incremental organizational value.

Project Management also play an important role in monitoring and controlling all the inefficiencies of the project through synchronization of different activities combined with right amount of capital, tools, other resources such as raw material, machine, human power etc. to attain the pre-planned objectives with the desired quality standard. Based on the past experience or standard set.

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## 1.8 OBJECTIVES OF PROJECT MANAGEMENT

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Project Management intend to plan, synchronize and control various related and diverse activities of today's modern industrial workplace. Project manager needs to foresee and explore the unknown future uncertainties and difficulties as much as possible so that the planning, organization and controlling and monitoring activities of a particular project is executed successfully.

Four elementary objectives of project management are

Clear Goals- A Project Manager cannot afford vague objectives of a project. The more specific the objectives, easier will be to achieve desired outcome.

Attaining quality performance- Since the concept of total quality management came into force, maintaining quality in each and every task became the responsibility of all operational levels rather than of quality control department.

Budget - There is very less scope of exceeding the financial budget of a project. the budgeting process can be totally disturbed. There is always a risk of failure that may result in discontinuation if funds fall short before the completion of project. Hence, a careful attention is given to financial resources available with the project manager.

Duration to complete- Standard time is set to match with actual time taken to complete every task. Proper feedback and improvement are made time to time to avoid further inefficiencies. Any kind of delay can inflate the cost of the project and further disappoint the promoters of the projects.

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## 1.9 PROJECT ENVIRONMENT

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Understanding project environment becomes very necessary if a project manager aims to complete the project successfully without hassles. The project environment analysis is held at the beginning of the project. Many Important factors needs to be considered within project environment such as:

- i. Physical environment

- ii. Cultural environment
- iii. Social environment
- iv. Political environment
- v. International Environment

Dealing with people could become critical without understanding their cultural and social diversity. Diversities of values, gesture, colours, language etc in different countries can be sensitive to the success of the project. For example; calling by first name is a culture in America whereas addressing by surname in European countries tends to be more formal irrespective of their first business meeting or they know each other well. In simple words Europeans are more formal than Americans. Likewise, the body language of Japanese people represents a lot about their cultural values. Respect towards machines rather not only for living things but also for non-living things in their culture is different than others. Even the meaning of same colours in different countries is understood differently by people.

Protocol of conversation is different across the globe. Call waiting over phone is natural in America but the same thing is considered impolite in Asian continent. The product packaging, delivery etc can also displease the customer. People understand things differently one of the common errors that can be made is the date format used in documents. For example; 5/3/2016 is understood as 3rd May while in other parts of the world it is 5th March. Obviously, such errors can be misleading and can create unnecessary hassles in any project.

The diversity of practices and cultures and its impact on products can be lot more than what is mentioned in this chapter i.e., it is beyond the scope of this chapter. One has to be global in approach but act local in practice this is what most of the successful multinational companies do to sustain and grow.

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## 1.10 PROJECT MANAGEMENT LIFE CYCLE MODEL

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Fundamental steps that project management consists of; are as follows

1. Conception and Initiation - The very first phase of project management starts with defining the goals and approach at a broader level. Basically, in this introductory phase looked for the viability, whether the chosen project can be undertaken or not. The financial and social cost and benefits are carefully evaluated to see the feasibility of a given project.
2. Planning - This phase typically begins with setting clear and detailed goals. The planning phase articulates the project's broad execution strategy. After identifying the project proposal, a detailed scrutiny needs to be done.
3. Execution- This phase consists of setting up location facilities that involves
  - (i) Project and engineering design
  - (ii) Negotiations and contracting
  - (iii) Construction
  - (iv) Training and

(v) Plant building

4. Performance review- Once the project is commissioned one is expected to get going with the monitoring process. A periodical, but regular review of actual outcome with the standard one shows the variation between the idealistic and the realistic performance. This measure can also correct the differences that may occur between standard and actual. Secondly, a recorded form helps in better decision making for future references.

5. Project Closure - Project manager is sometimes left with few tasks that needs to be finished once the project is completed. Contractors and contracts of project related hired/leased machines comes to an end. Final documents and deliverables are then stored at one place for further use.

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## 1.11 PROJECT MANAGEMENT TOOLS

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Gantt Chart - Gantt chart is a popular technique to show activities/tasks displayed against time. Each activity is represented by a Bar, the starting and end of bar reflect the start and end date of a particular activity, and the length shows the duration of that activity. Gantt Chart is prepared to reflect Project schedule. Tasks that are expected to be performed on the vertical axis and time intervals on the horizontal axis are listed in it.

Critical Path Method (CPM) - Critical Path method is a tool to reflect a sequential activity from start to the end of a project. Depending on the flow logic of a project one particular project may have more than one critical project. Time taken in any activity of critical path reflect the duration of project delivery. This is a sequential mathematical calculation of every schedule of project activity.

Program Evaluation and Review Techniques- Developed in 1950s, For US. Navy Polaris project is used to reduce time and cost required for a project. It is used to estimate the time required to realistically complete the project. It is different from CPM in a way that three different time estimates are calculated for the project such as; shortest possible time, most probable time, and the longest amount of time every task would take in case things does not functioned as planned.

Microsoft Project - It is the most widely used project management software. It helps to get started quickly and execute project with ease.

Application service provider (ASP) software- It is a web hosted project management software where a purchaser make a payment to host and maintain ASP .

Industry specific software - These software serves a specific industry or environment.

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## 1.12 THE PROJECT MANAGER

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The project manager is responsible for the success or failure of a particular project. He is liable to coordinate and synchronize, varied activities that are related to complete a project on time. Not all project managers succeed in other words very few complete the project on time in India. This may be perhaps due to his inability or exhausted bureaucratic system that exist in our country. To be a project manager one does not need necessarily a management school degree, rather an experienced one who has a long technical knowhow related to inventory, machine etc. may turn out to be a better choice.

### 1.12.1 RESPONSIBILITIES OF PROJECT MANAGER

**Roles and responsibilities of a project manager can be grouped as follows:**

- Maintaining the integrity of project
- Building and development of project execution plan
- Setting targets developing procedures for attaining these targets.
- Negotiations for commitments
- Direction, coordination, & governance of interconnected activities
- Appointing contractors, sub-contractors and associated bodies.
- Human resource management
- Sustaining satisfaction level of consumer, & government.
- Documentation of entire activities.

### 1.12.2 PROJECT MANAGEMENT AS A PROFESSION

A realistic, calculated, and holistic approach is what makes a better project. The unique, disciplined process of project management emphasis on results which is not possible with the collective efforts of all related departments. Clear and frequent communication, regular feedback, flexibility, adaptation to changing need makes a successful project management approach. Adaptation to these attributes not only delivers good results for complex technical projects, but also in daily activities. In today's world many organizations employ the tools of project Management. Projects are a one-time effort. Every project has to be operated uniquely and in a special order. The next step is together requirements. These requirements, resources are those that are important to be identified to produce the scope of the project. Project manager also analyse changes that can be made to the scope and the requirement, and further make recommendations to the sponsor for the implementation of those changes.

### 1.12.3 PROJECT SELECTION

As project client s and management teams become more sophisticated, the focus of a project organization is mainly on aspects such as how to choose the right projects and how to prioritize them. Ineffective project selection is the most common reason for the failure of many projects.

Ineffective project selection may result from ambiguity in the framing of objective, absence of planning, and lack of team coordination. The project manager has to be very careful in selecting a project. He should consider the objectives and policies of the organization, the availabilities of resources and the selection of the right team to take up the project.

Project selection is a systematic process of choosing a project idea for implementation from the available alternative project ideas. The project manager attempts to decide which idea to choose, which technology to develop, and which methodology to follow in selecting a project. It is true that project ideas may be generated accidentally, but the selection of a project is not an accidental process, it is a choice.

The project manager has to carefully prioritize all the available options and choose the best. A wrong choice of a project may result in ineffective use of resources and project failure. This chapter discusses the various numerical and non-numerical methods used by the management of a firm in selecting a right project.

### **1.12.4 CRITERIA FOR PROJECT SELECTION MODELS**

Management of change is essential for every firm to survive in the competitive environment. Earlier, firms took up a project as a part of the strategy along with their actual operations. Today, organizations are specializing in getting and executing the projects. Every project is important for the firm and each firm and each project demands separate development and implementation strategies.

It is the duty of a project manager to choose those projects that guarantee returns in the near future. Proper project selection also determines the allocation of resources which is aimed at ensuring better returns. A rational decision-making process is essential to choose the right project.

Souder, a well-known author in the area of project management describes the criteria to be used while choosing a project selection model. He suggested that the project selection model should fulfil the following characteristics.

- Realism
- Capability
- Cost
- Flexibility
- Ease of use
- Easy Computerization

#### ***Realism***

The model considered for selection of a project should consider all the relevant factors that influence the decision of a project manager. The model should explicitly state the objectives of the project manager and the firm in selecting a particular project. It should also consider the risks (technical, cost, time and performance risks) that a project may encounter.

### ***Capability***

The selection model that the project manager considers should be capable of providing the optimum decision taking into consideration all the risks and constraints involved in the project. The selection model should have the capability to evacuate future project proposals based on the expected returns of each project without subjectivity.

### ***Costs***

The various costs incurred in obtaining the right selection model should be kept at minimum. The costs associated with designing a selection model include data generation costs, data processing and storage costs. The objective here is to identify the best selection model and optimize the cost incurred to select the decision model based on the size of the project. Firms should also ensure that the project costs do not exceed the benefits of the project.

### ***Flexibility***

The selected model should provide the desired results with the given conditions and taking into account the firm's interests. The model should be easy to modify or should be capable of adjusting on its own to the changes in the firm's environment.

### ***Ease of use***

The selection model should be convenient to implement and easy to communicate. The model should be tested as to how best it can be used by existing employees without further interpretation to take a decision.

### ***Easy Computerization***

The data should be computerized for easy storage and retrieval. Software packages like MS excel, Lotus 1-2-3, Quatro Prp. Work like Decision support systems, assist the project manager in data analysis and decision making.



### ***Check Your Progress- A***

#### **Q1. What do you mean by Project Management?**

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**Q2. What are the essential of a Project?**

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**Q3. Discuss classification of a Project.**

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**Q4. What do you mean by Feasibility Study?**

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**Q5. Discuss Project Management Life Cycle Model.**

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**Q6. Discuss Criteria for Project Selection Models.**

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## **1.13 ANALYZING THE UNCERTAINTY OF A PROJECT**

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Although the firms try their best to come up with the best selection criterion, they rarely come out with a single best solution. This is because of the uncertainty and risk involved in carrying out the project. It is true that risk is inherent in every activity of the project and no project manager can predict the behaviour and intensity of the risk. But the objective of the project manager is to reduce the impact of the risk on key aspects such as project cost and project schedule.

The result of a project activity largely depends on:

- What the project manager does and
- How the business environment affects the project?

The condition under which the decisions are made by the project manager can be classified into three categories: risk, uncertainty, and certainty. Under risk conditions, the project manager finds the chance of occurrence of different states of nature and payoff value of each state of nature. The expected value is calculated as sum of the product of payoff value and the chance of occurrence of the state of nature.

In case of uncertain conditions, the chance of occurrence of each state of nature is not known. No standard procedures are developed to make a decision under these circumstances. Therefore, the project manager assigns subjective probabilities to each state of nature to calculate the expected values of the projects. Thus, the uncertain problem is converted into a risk. In certain conditions, the project manager assumes only a single state of nature (probability) and the expected project outcome becomes the expected value.

The project manager tries to reduce the uncertainty by preparing Performa documents that estimate the profit and loss of the projects. Techniques like risk assessment, simulation analysis and window-of-opportunity analysis provide useful information in dealing with uncertainty.

### **Risk Assessment**

Risk assessment aims at measuring the level of uncertainty associated with the various parameters considered by decision makers. Decision making becomes very difficult when risk is couples with an amount of uncertainty. In such situations, the project manager carefully estimates the probability distributions for all the investments made to calculate the likely returns. The probability distribution for the expected rate of return is calculated by simulation technique.

### **Simulation Analysis:**

Simulation is a technique of imitating the behaviour of some situation or process (whether economic, military, or mechanical) by means of a suitably analogous situation for the purpose of studying the characteristics of the variables in the situation.

### **Window-of-opportunity Analysis:**

A firm up a project to create a new process or a product only when it feels that there will be reasonable return from the success of the project. In the initial stages of product development, a project manager is not too sure of returns the new product or process can bring into the firm. The only thing the project manager knows at this stage is that the project will be technically viable.

According to this analysis, the project manager analyzes the current production process in detail and notes down al the activities that would be improved by the added innovation. Depending on this baseline data relating to the current process and its performance, the project manager estimates the performance of the innovation as a fraction of the baseline system. This makes the process of project selection easier for the project manager.

## PROJECT PROPOSAL

Project proposal is the initial document that converts an idea or policy into details of a potential project, including the outcome, outputs, major risks, costs, stakeholders and an estimate of the resourcing and time required. It is prepared after a careful evaluation of several projects and the factors influencing each project. A project proposal normally includes a summary statement, cover letter, justification section, the technical description of the proposed work, budget and key personnel involved in the project. Since the proposal is a letter aimed at convincing the authority to commence the project, it should be prepared carefully. Sometimes the management also asks the project manager to submit the project proposal in order to examine the viability of the project. Preparation of an in-house project proposal does not require much attention as the document is prepared to send it to the top management of the firm. The document is produced only as formality and the top management normally accepts it. This is because the objectives, strategies, financial constraints of the organization were already taken care of while selecting the project. An in-house project proposal states the resources requirements of the project team. Once the top management receives the proposal, it decides whether the project proposal is to mention the project requirements.

In the case of an outside agency, external sponsor of the government, the proposal should be properly documented. It is also project manager's responsibility to check if the outside customer can pay for the project being proposed. During the 1980s several European engineering companies initiated several projects in Iraq, but payments were not made because of the hostilities that broke out later. A proper project proposal plays a crucial role in getting the Project approval.

The proposal document should be simple, precise and well structured. Generally, it starts with an executive summary statement that describes the nature of the project being proposed, to the concerned authority. This statement should not be too technical to understand and it should describe scope of the project. The summary statement is followed by a cover letter, which acts as a key marketing document. A model project proposal/definition report is shown in Exhibit 1.1.

### Exhibit 1.1

<b>Project Definition Report</b>			
<b>Project Definition</b>	<b>Project Name</b>	<b>Project Manager</b>	<b>Date</b>
<b>Activity</b>	<b>Schedule</b>	<b>Budget</b>	

No.	Name	Description	Start	End	Money	Labor	Material	Time(Hrs)	Manager
<b>Prepared by</b>		<b>Date</b>	<b>Approved by</b>				<b>Date</b>	<b>Sheet of –of-----</b>	

Source: Joseph W. Weiss and Report K. Wysochi, "5 phase Management, "Perseus Books, Cambridge Massachusetts, p.45.

Before sending the proposal to the outside funder/agency, the following questions have to be answered.

- Which project are to be chosen?
- How to organize the proposal documentation process?
- What strategy to be used in setting the bidding price?
- How much time and costs can be spent for preparing a project. Every project proposal deals with four issues, namely:
  - Technical nature of the project
  - Plan of implementation
  - Plan of administration and logistics
  - Description of the group

### Technical Nature of the Project

The major subsystem of the project and the organization's approach to each subsystem should be noted down for complex projects. The techniques to meet the special technical requirements of the client should be clearly in the project proposal.

### Plan of implementation

This part of the project proposal provides the estimates of the schedule, costs, material used for each major subsystem. Costs and time are then aggregated to estimate the total cost and

duration of the project. Gantt Charts, Critical Path Method (CPM), Program Evaluation and Review Technique (PERT) are used to present the plan of implementation for each major subsystem. The major phases of the project and their estimated completion time are also provided to check the phase of implementation.

### **Plan of Administration and Logistics**

The proposal provides a detailed description of how all the needed equipment, and routing facilities are arranged. It also describes the administration procedures of all the departments, the method of transportation of raw materials, performance measurement of subcontractors, conduction of internal and external audits, and quality checks. This section should also cover in detail how change orders are to be handled.

### **Description of the Group**

A detailed list of the key project employees, their qualification, their job descriptions and their experience are provided in the description of the group' section of the proposal. The proposal should convince the outside agency or the sponsor that the project team is capable of executing the project. In case of internal projects, names and designations of all project members is enough.

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## **1.14 SUMMARY**

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A project is a group of unique, inter-related activities that are planned and executed in a certain sequence to create a unique product and/or service, within a specific timeframe, budget and the client's specifications. Some of the characteristics of the tasks that qualify to be a project are: uniqueness, specifically of goal, sequence of activities, specified time and interrelatedness. Projects are carried out under many resource constraints (time, cost, and material resources) and their success depends on the ability of the project manager to manage these constraints effectively. Project management is the application of knowledge, skills, tools and techniques to project activities in order to meet or exceed stakeholder needs and expectations. A project comprises of many stages with sub-projects interwoven and interlinked. A sound project will definitely work towards economic development.

Project Management involves a process of first establishing a plan then implementing that plan to accomplish the project objective. This planning effort includes clearly defining objective, dividing and subdividing the project into major, "pieces" called work packages, defining the specific activities that needs to be performed for each work package, graphically portraying the activities in the form of a network diagram, estimating how long each activity will take to complete, defining the types of resources and how many of each resources and how many of each resource are needed for each activity, estimating the cost of each activity, and calculating a project schedule and budget.

Taking the time to develop a well-thought-out plan is critical to the successful accomplishment of any project. Once the project starts, project management involves monitoring the progress to ensure that everything is going according to plan. The key to effective project control is measuring actual progress and comparing it to planned progress on timely and regular basis and taking corrective action immediately, if necessary.

The ultimate benefit of implementing project management technique is having a satisfied customer – whether you are the customer of your own project or a business (contractor) being paid by a customer to perform a project. Completing the full project scope in a quality manner, on time and within budget provides a great feeling of satisfaction to everyone involved in the project.




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## 1.15 GLOSSARY

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**Acceptance Sampling:** It is the product quality control technique that monitors the quality of a product after it has been produced.

**Administrative Closure:** It is a process of gathering project records, analysing the reasons for the success and effectiveness of a project, and storing information for future use.

**Annuity Due:** When cash flow occurs at the beginning of each period, the annuity is known as an annuity due.

**Annuity:** A series of periodic flows of equal amounts that can be payments or receipts.

**Average rate of return:** Method used to measure the relationship between the average annual profits earned by a project and the investments made in it. It is also known as the accounting rate of return.

**Activity:** A unit of work performed during a project. An activity usually has a duration, a cost, and resource requirements. Also called task.

**Benefit cost ratio:** It is the ratio of the future cash benefits to the initial outflows. It is also known as the profitability index.

**Beta:** A measure of the volatility or systematic risk of a security or a portfolio of securities in comparison with all the other securities in the market (the other securities in the market act as a benchmark against which the price of the security is measured).

**Budget Cost of work Scheduled (BCWS):** The sum of the approved cost estimates (including any overhead allocation) for activities scheduled to be performed during a given period.

**Budgeted cost of Work Performance (BCWP):** The sum of the approved cost estimates (including any overhead allocation) for activities completed during a given period.

**Balloon Payment:** A final debt payment which is significantly greater than the previous payments.

**Communication Planning:** It is the process of identifying the various information and communication requirements of the different stakeholders of the project.

**Compound interest:** The amount of money earned on the principal amount and the accumulated interest.

**Capex:** Long-term property, plant and equipment expenditures.

**Configuration Management:** It is a documenting procedure that is used to ensure that description of the project product is accurate and complete.

**Consumer Risk:** This is the risk to the consumer (any firm or department that receives an item from the producer) that arises because of the selection of a bad lot.

**Contract Closure:** It is process involving verification of the product along with updating all the project documents with the final results and storing all project information for future retrieval.

**Contract Administration:** It is a process of making sure that the vendor's performance satisfies the project needs mentioned in the contract.

**Contract Files:** They are a total set of indexed documents developed to include them in the final project records.

**Contract Negotiations:** It is a process aimed at enhancing the clarity and ensuring mutual consensus on the structural and procurement aspects mentioned in the contract before signing the contract.

**Control Chart:** A control chart is a graphical representation of the result of a process over a period of time.

**Cost Benefit Analysis:** The economic and social justification for the project

**Cost Budgeting:** It is a process of allocating the costs to individual work items, based on the cost estimates made.

**Cost Estimating:** It refers to identifying and evaluating various cost alternatives.

**Cost of Capital:** The minimum rate of return the firm must earn on its investments in order to satisfy the various categories of investors who have made investments in the form of shares, debentures, term loans, etc.

**Cost of Debentures:** The discount rate at which the present value of post tax interest and principal repayments is equal to the net proceeds from the issue of debentures.

**Cost of External Equity:** The rate of return that the company must earn on the net funds raised by it **issues equity capital**.

**Cost Overruns:** The extra costs incurred over the estimated costs are called costs overruns.

**Cost Risk:** Risk of failing to complete the job within the allocated budget.

**Cost Variance:** Any difference between the estimated cost of an activity and the actual cost of that activity.

**Cost-Plus-Fixed-Fee (CPFF) Contract:** In these contracts, the vendee bears all the cost of the products or service and the vendor is paid a fixed fee for supplying products or service.

**Cost of Conformance:** These are the costs that firms incur for the means employed to achieve quality. They include cost of training, inspection, testing, auditing, etc.

**Cost of Failure:** Costs of failure are of two types: internal failure and external failure. Internal failure costs result from defects that are discovered during the production of a product or service and when the product is under the control of the firm. External failure costs arise when a defect is discovered after the customer has received the product or service.

**Debt capacity:** The potential of the cash flow of a business to fulfill debt requirements. If the debt capacity of the project is higher than the debt criteria, the financial plan of the project will be deemed feasible; otherwise the model would be rejected.

**Debt-to-equity ratio:** A debt-to-equity ratio for a company. The greater the ratio, the greater the company's financial leverage.

**Developmental agency:** Financial institutions granting funding and buying shares in companies that are main industrial players in developing countries (often joint ventures promoted by resident sponsors in those countries).

**Event:** It is a time oriented reference point that signifies the start or end of an activity. It is represented by a circle.

**Environmental risk:** Economic or administrative consequences of slow or catastrophic environmental pollution.

**Feasibility study:** A document that clearly defines all aspects of a particular project and allow thorough evaluation as to whether this can actually be achieved. The paper is usually drawn up by the engineers and applies solely to the technological side of the plan for project funding.

**Final Acceptance Certificate (FAC):** Document issued by an independent engineer upon completion of the initial plant tests. The SPV is liable for the plant once the final acceptance certificate is issued.

**Gantt chart:** The graphical performance of a grid visualization system assisted by software. This displays the timeline of tasks and the list of operations.

**hedging agreement:** Documentation on contracts that contribute to the possibility of interest volatility, exchange rates or other economic factors.

**IBRD:** International Bank for Reconstruction and Development. Member of the World Bank Group.

**Inflation Risk:** The risk of inflation is that inflation will undermine returns on investment as purchasing power declines.

**Joint venture:** Agreement between enterprises establishing a new company with partners providing resources.

**League table:** Lender and contractor rankings by debt, final approval or amount of project finance loans or consultative mandates completed during the specified timeframe.

**Legal opinion:** Conclusive statements during the financing phase, which confirm that the main characteristics of the proposal are legally relevant.

**Legal risk:** The risk that a contract party cannot implement security arrangements, enforce foreign decisions, choose the law, or refer disputes to arbitration.

**Main contractor:** Leads a consortium company which wins an application to design and construct a particular plant on the basis of a key fixed-price contract.

**Mixed Project:** A project in which the unrecovered investment balance the life of the project is greater than zero for some years while it is equal to or less than zero for other years.

**Negotiations:** It is process of exchanging ideas or views with one another in order to arrive at a consensus on a particular issue.

**Payback period:** It is the time period in which a firm can recover its investments made in a project

**Performance Reporting:** It is the process of gathering and conveying all performance-related information on resource utilization, and achievement of project goals.

**Perpetuity:** An annuity of an infinite duration

**Pessimistic time:** Pessimistic time is the maximum amount of time required to complete an activity. This happens when the external environment is unfavourable.

**PMIS:** The project manager uses Project Management Information System (PMIS) in order to gather, integrate and disseminate the information and outcomes of several project processes.

**Portfolio Risk:** A measure of the variability of earning caused by the diversification achieved by the firm in its operations and in its asset portfolio.

**Precedence Diagram Method (PDM):** In this method, the network diagram is constructed using nodes to represent the activities and connecting them with arrows to represent the dependencies.

**Primary Data:** It is the data that is collected for a specific purpose and for the first time.

**Project Definition statement:** It is similar to POS and it provides more detailed information about the project as it is used as a reference point by the project team for executing the project.

**Project leader:** An individual leading the project management process and facilitating the team building process.

**Project Management Processes:** Processes that describe and organise project activities.

**Project Manager:** An individual who is responsible and accountable for the project, and has the authority that is needed to take the responsibility for the successful completion of the project.

**Quality circle:** It is a group of employees, normally from a single department who voluntarily meet periodically to discuss the quality issues in their department.

**Scope Planning:** It is the process of developing a scope statement as a basis for all future decisions to be taken on the project.

**Secondary Data:** It is the data that is already available but might have been collected for some other purpose or by some other institutions.

**Total Float:** This is the amount of time by which the completion of an activity can be delayed beyond its expected earliest completion time without affecting the overall project duration.



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## 1.17 SUGGESTED READINGS

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## 1.18 TERMINAL QUESTIONS

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Q1. Define Project.

- Q2. Define the term project objective and give some examples.
- Q3. List some examples of resources that are used on a project.
- Q4. What role does a customer have during a project cycle?
- Q5. What aspect of a project might involve some degree of uncertainty? Why?
- Q6. Define scope, schedule, cost and customer satisfaction. Why are these considered to be constraints?
- Q7. Why is it important to satisfy the customer?
- Q8. List and describe the main phases of the project life cycle.
- Q9. List and describe the steps required to develop a baseline plan.
- Q10. Why must a manager monitor the progress of a project? What can be done if a project is not proceeding according to plan?
- Q11. List some benefits of using project management techniques.
- Q12. Consider a project in which you are currently involved or in which you have recently been involved.
- Describe the objectives, scope, schedule, cost, and any assumption made.
  - Where are you in the project life cycle?
  - Does this project have a baseline plan? If yes, describe it. If not, create it.
  - Are you or is anyone else monitoring the progress of the project? If so, how? If not, how could you do so?
  - Describe some unexpected circumstances that could jeopardize the success of the project.
  - Describe the anticipated benefits of the project.
- Q13. Give examples of situations in which a business might develop a request for proposal.
- Q14. Give examples of situations in which an individual might develop a request for proposal.
- Q15. What should be contained in a statement of work?
- Q16. Why is it important for a business to try to quantify the expected benefits of implementing a solution to a problem?
- Q17. Why is it important to select the right project before you begin working?
- Q18. Describe a situation in your life in which you performed needs identification.
- Q19. Describe how a business selects which projects to work on when there are numerous projects that could be done.
- Q20. What are the various stages in the total project life cycle? Make a flow chart to explain the same.
- Q21. Write a note on:
- Conceptualization
  - Financial closure
  - Formulation
- Q22. Discuss about the 'overview' of investment planning in an organization.
- Q23. You are appointed as a consultant for a project. Advise to the management for the factor to be considered while deciding a new investment in an organization.

Q24. You have been appointed as a project consultant, please analyse reasons for delay in the project as well as consequences of delays.

Q25. What are the lessons learnt from a project after the execution?

Q26. What do you understand by formulation in relation to investment decision making? What are the factor related to formulation?

Q27. Please indicate the basic/data/information/basic criteria which are necessary for formulation and cession making of projects.

Q28. How are investment proposal generated?

Q29. In formulation of investment proposals, data collection on various related aspect is necessary. Elaborate.

Q30. A suitable location of project is most important for the successful completion and operation of a project. Discuss and bring out all the related aspects.

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## UNIT 2 THE PROJECT FINANCE MARKETS

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- 2.1 Introduction**
- 2.2 Objectives**
- 2.3 Project Finance Markets**
- 2.4 Summary**
- 2.5 Glossary**
- 2.6 References/Bibliography**
- 2.7 Suggested Readings**
- 2.8 Terminal and Model Questions**

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### 2.1 INTRODUCTION

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Project finance helps in the development of the very important sectors such as telecommunication, oil and gas power, water supply management, mining, etc. which are very important for the economic growth of countries. In Developed as well as developing markets, project finance is a very important part of financing option for large and capital intensive infrastructure projects.

There are abundant examples of infrastructure and engineering projects which required project finance for making it happen. The examples of such big infrastructure and capital intensive projects are the Hong Kong Zhuhai bridge, the Chad-Cameron oil pipeline, the Euro Tunnel, the Petrozuata oil field, the Ichthys oil field and the list goes on. This unit focuses on private sector debt market for project finance specially commercial banks, bond issues, subordinated debt, lease finance and vendor finance.

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### 2.2 OBJECTIVES

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After reading this unit you will be able to understand the;

- Project finance markets
- The private-sector debt market for project finance.
- Public-Private Partnership model.

## 2.3 PROJECT FINANCE MARKETS

The project finance is not a new concept. It dates back to the times of Romans and Greeks when it was used to finance the imports and exports of goods via sea routes and share the risk associated with them from storms and pirates. In the mid-eighteenth century, the project finance was used to develop railroads and in 1930s it was used to explore oil fields and well drilling in America. In the late nineteenth century, project finance gained access in European markets. In 19<sup>th</sup> century, the railways, electricity, water, gas, oil fields and telephone industries were developed all over the world using project finance from the private sector.

The various types of projects which require project finance are:

- Construction
- Energy generation such as solar, wind, thermal and hydro power generation, power transmission, etc.
- Public infrastructure such as roads, rail, airports, metro, seaports, etc.
- Telecommunication
- Manufacturing
- Education
- Hospitals

**Table 2.1 : Global Project Finance Loans: By Region (1/1/2020-31/3/2020)**

<b>Region</b>	<b>US \$ (mil)</b>
<b>Americas</b>	<b>15288.4</b>
Central America	707.8
South America	1750.8
North America	12814.8
Caribbean	15.0
<b>EMEA</b>	<b>16740.8</b>
Middle East	3190
Africa	1039.4
Eastern Europe	704.5
Western Europe	11806.9
<b>Asia Pacific &amp; Japan</b>	<b>18890.1</b>
Australasia	3295.6
Southeast Asia	2154.7
North Asia	3157.4

South Asia	4952.9
Japan	5329.5
<b>Total</b>	<b>50919.2</b>

Source: Project Finance Review, Q1 2020, [www.refinitiv.com/dealsintelligence](http://www.refinitiv.com/dealsintelligence)

**Table 2.2: Global Project Finance Loans: By Sector (1/1/2020-31/3/2020)**

<b>Sector</b>	<b>US \$ (mil)</b>
Power	33157.7
Oil & Gas	4821.3
Petrochemicals	3618.9
Transportation	2781
Industry	2223.8
Telecommunication	1475.2
Leisure & Property	1130.6
Water and Sewerage	1080.7
Mining	630
<b>Total</b>	<b>50919.2</b>

Source: Project Finance Review, Q1 2020, [www.refinitiv.com/dealsintelligence](http://www.refinitiv.com/dealsintelligence)

Table 2.1 depicts that in the first quarter of year 2020, there are project finance loan proceeds around 50919.2 million US dollars, highest in the Asia Pacific and Japan region. From Table 2.2 it can be observed that maximum amount of project finance done is in power sector which is 65 %.

In 20<sup>th</sup> century, project finance gained momentum. Though it has slowed down with the passing years, but there is still need of project finance. Table 2.3 depicts the number of projects, number of countries and total investment disbursement by International Finance Corporation, World Bank Group from year 2016 to 2020.

**Table 2.3 - Financial Highlights of International Finance Corporation, World Bank Group**

Dollars in millions, for the years ended June 30					
	2020	2019	2018	2017	2016
<b>Long-Term Investment Commitments</b>					
<b>FOR IFC'S OWN ACCOUNT</b>	\$11,135	\$8,920	\$11,629	\$11,854	\$11,117
Number of projects	282	269	366	342	344
Number of countries	67	65	74	75	78
<b>MOBILIZATION<sup>1</sup></b>	\$10,826	\$10,206	\$11,671	\$7,461	\$7,739
Syndicated loans	\$4,989	\$5,824	\$7,745	\$3,475	\$5,416
IFC initiatives & other	\$3,370	\$2,857	\$2,619	\$2,207	\$1,054
Asset Management Company (AMC) Funds	\$50	\$388	\$263	\$531	\$476
Advisory Mobilization <sup>2</sup>	\$2,417	\$1,137	\$1,044	\$1,248	\$793
<b>TOTAL INVESTMENT COMMITMENTS</b>	\$21,961	\$19,126	\$23,301	\$19,316	\$18,856
<b>Investment Disbursements</b>					
For IFC's account	\$10,518	\$9,074	\$11,149	\$10,355	\$9,953
Syndicated loans	\$2,231	\$2,510	\$1,984	\$2,248	\$4,429
<b>TOTAL INVESTMENT DISBURSEMENTS</b>	\$12,749	\$11,584	\$13,133	\$12,602	\$14,382

Source: International Finance Corporation, World Bank Group

Private sector project finance debt is mainly provided by commercial banks and bond investors. Commercial banks provide long-term loans to the project companies. Long-term investors such as pension fund companies, insurance companies, etc. purchase bonds issued by project companies. They are called bond investors. The other private sector project finance markets include subordinated debt, lease finance, vendor finance which are explained in the subsequent sections in this unit.

### 2.3.1 COMMERCIAL BANKS

The two main providers of private sector project finance debt are commercial banks and bond investors. The large infrastructure projects are capital intensive and they need financing by many lenders. In an international project, the lenders to the project will be from various countries. Often a syndicate of lenders is formed. Commercial banks are the biggest lenders to the project finance. They provide long-term loans to the project companies. Besides their traditional role of providing finance, the commercial banks are also performing many other

functions such as providing construction finance, working capital finance, advisory services, intermediation to permanent long term fixed rate financing, risk management services like commodity, interest rate, currency, etc., foreign tax absorption, etc. A small group of arranging banks from the host country of project arrange the project loan and sometimes underwrite some or all portion of the loan. Many times they are the original signatories to the loan agreement and therefore they take the risk that at a later stage they will be able to sell the loan. They are also called Mandated Lead Arranger (MLA) as they lead a group on investors in a syndicated loan and facilitate it for large project finance.

For financing a project in a particular country, generally the local banks are preferred as they are aware of the local working conditions. Also the funding will be in local currency which will avoid the foreign exchange risk. The banks need to have experience in project finance markets in terms of capability to assess and measure project risks. In developed nations, local banks generally finance the projects, but, sometimes foreign banks which are operating in the concerned country through branch or subsidiary also finance the projects. But in developing nations the situation is different. There may not be the long-term debt market or the domestic banks might not have the experience in project finance. In such countries, public sector local development banks finance the projects. In developing countries, international banking market plays an important role in project finance. Few major banks act as a Lending Manager and put together worldwide project finance transactions. They are also called Mandated Lead Arrangers (MLA) or simply Lead Banks. They have their large project finance operations in key locations worldwide. They will have at least one project finance office in America, one in Europe, one in Asia and Australia and one in Middle East and Africa.

### **2.3.2 BOND ISSUES**

The project company issues bonds to raise finance. These bonds are tradable debt instruments against which the project companies agree to repay the bond holder the amount of the bond value along with interest. These bonds are for fixed tenure and the bond holder gets fixed interest on the amount he has invested in these bonds. For those investors who want long-term fixed-rate return but low risk, these bonds are a good option to invest in. Insurance and pension fund companies are the major investors in these types of bonds.

These bonds are securities which can be traded in financial markets. They are generally sold to institutional investors by private placement who hold them in their portfolio till maturity. Though the global project finance bond market is very small as compared to that of loan market, there is significant growth in the bond market in the recent years. The bond issues are concentrated in well-defined geographical areas. Western Europe, United States and Asia are the largest markets for the project finance bond issues.

### **2.3.3 SUBORDINATED DEBT**

Subordinated debt is also called mezzanine debt or mezzanine financing. It has fixed rate, long tenure and is an unsecured loan. Subordinated debt is used to fill the funding gap between the senior debt (secured loans from banks and other financial institutions) and equity. It is ranked below other senior securities or loans in terms of claims on assets or earnings in capital stack.

Capital stack is ranking of debt, loans or investors in terms of repayment. Subordinated debt is also called junior debt and is ranked below all other unsubordinated debts and equity. That means if a borrower company defaults or goes bankrupt then the creditors of subordinated debts will be paid only after all the senior debt creditors are fully paid. This makes it riskier than the other debts. Because of higher risk, it has higher interest rate than the unsubordinated or senior debts. It is also called junior debt. It is considered as equity for computing debt to equity ratios.

Sometimes it is used for advances needed by investors, guarantors or sponsors to cover the construction cost over runs or payments essential for maintaining debt to equity ratios or other guaranteed payments. Subordinated debt provided by investors is treated similar to equity but the investors do not get extra rights to recover the debt before senior lenders in case of default. They can enforce their rights to recover debt only after the senior lenders are fully paid and sufficient cash flow is available.

### **2.3.4 LEASE FINANCE**

In big infrastructure projects, sometimes the company does not want to buy the heavy machinery or equipments needed for the project. Rather it gets them on lease from the owner. The owner is called lessor who provides finance for the equipment or machinery. The lessor gives it on lease to the lessee. The lessee project company pays rental amount for using the machinery or equipment. This way the project company does not need to buy these things by paying a very high amount. The project company gets full control over the project not the full ownership.

In project finance where heavy machinery and equipments are required, lease financing is a very common form of financing. Sometimes the project company does not need the equipment for longer time period, so instead of buying it, it becomes economical to get it on lease and pay rental for that duration only. This will save the depreciation cost also. The lessor company gets benefitted in terms of accelerated depreciation and associated tax where is offset against the taxable revenue. The project company weighs the option of buying the equipment and getting reduction in tax liability under depreciation head against the financing cost of the equipment.

In project finance, two types of lease financing structures are used. They are: 1) Leveraged Lease and 2) Guaranteed Lease.

- 1) **Leveraged Lease:** It is also called synthetic lease. In this type of lease, the lease investor called lessor provides finance for purchasing equipment and retains the tax benefits of depreciation from this investment to shelter other tax liabilities. The ownership of the equipment lies with the lessor. This type of financing is common in America and Japan.
- 2) **Guaranteed Lease:** Also known as tax or true lease, in this type of lease project financing the lessee gets the tax benefits of depreciation and interest deduction. The lessor provides 100 % finance for the purchase of equipment with the guaranty from banks.



### ***Check Your Progress***

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**Q1. Explain role of commercial banks in project finance.**

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**Q2. What is vendor financing?**

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### **2.3.5 VENDOR FINANCE**

Sometimes the borrowing company is short of funds or unable to get credit or loan from the financial institutions. In this situation, the company who is supplying machinery, equipment or services for the project, provides loan to the borrowing company to buy these machinery, equipment or services from it. This is called vendor financing.

Vendor financing is a form of loan offered by the supplier company of the machinery, inventory, equipment or services needed for the project to the borrowing company. The supplier company is called vendor. Generally, these loans are at higher interest rates than the traditional financial institutions. Though there is a higher risk of defaults, but vendor get higher interest rate, and creates a business for his inventory.

The borrowing company also gets benefitted in terms of credit, less initial outlay of funds, and availability of machinery, equipment, inventory or services required for the projects. Also, the company can utilize the bank finances at a later stage of the project. Vendor financing is of two types: 1) Debt vendor financing and 2) Equity vendor financing.

In debt vendor financing the vendor provides the goods or services to the borrower at certain agreed interest rate on the sale price. The borrower will repay the debt with interest. In equity vendor financing, the vendor financing company provides goods or services to the borrowing company in exchange of the stock or equity of the borrowing company and becomes the shareholder in the borrower's company.

### 2.3.6 PUBLIC PRIVATE PARTNERSHIP (PPP) FINANCE

To finance, build/develop or operate public infrastructure projects such as airports, railroads, highways, water and sewerage systems, power and energy generation, etc., government collaborates with private companies. This type of long-term arrangement between public and private sectors is called public-private partnership model. The various definitions of PPP are given below:

“Public-Private Partnership is a long-term contractual arrangement between the government and a private partner whereby the latter delivers and funds public services using a capital asset, sharing the associated risks.” - The Organisation for Economic Co-operation Development (OECD)

"Public-Private Partnership is a partnership between a public sector entity (sponsoring authority) and a private sector entity (a legal entity in which 51% or more of equity is with the private partner/s) for the creation and/or management of infrastructure for public purpose for a specified period of time (concession period) on commercial terms and in which the private partner has been procured through a transparent and open procurement system.”- Government of India.

As per Weimer and Vining, "A public-private partnership generally involves a private entity financing, constructing, or managing a project in return for a promised stream of payments directly from government or indirectly from users over the projected life of the project or some other specified period of time".

In India, construction of highways is being done using PPP finance where the investing private companies recover their investments through toll taxes for certain period of time. Once they fully recover their investments, the management is fully handed over to the government. This way the private companies get their funds invested in projects recovered and government gets the world class infrastructure developed. The projects are partially funded by government and remaining funds are raised by the private entities.

The Special-Purpose Vehicle (SPV) company or special purpose entity is created for financing, construction, operation and maintenance of a project. The SPV assumes all the rights and obligations and in return all the cash-flows are channelled through SPV. Ring-fencing type of cash-flows are recorded in the balance sheet. Ring fencing is a practice of separating certain assets and liabilities from creditors by creating a separate legal entity.

In PPP mode of project finance, the SPV gets control of the governance of the project. The government does not need to raise the finance directly and hence not directly liable to any lenders. So it is advantageous to both the entities i.e. public and private sector. With the help of Innovation and Technology of private sector, government can create world class infrastructure and improve the operational efficiency of providing public utilities and services.

Partnerships between private companies and governments provide advantages to both parties. Private-sector technology and innovation, for example, can help improve the operational efficiency of providing public services. The public sector, for its part, provides incentives for the private sector to deliver projects on time and within budget. In addition, creating economic

diversification makes the country more competitive in facilitating its infrastructure base and boosting associated construction, equipment, support services, and other businesses.

There are certain risks faced by private entities when engaged in PPP mode. The risks are construction risk in infrastructure projects such as railways, roads, etc., cost overruns, time delays, technical defects, meeting safety standards, quality checks, etc. From public entity's point of view there is risk of monopoly by private entity, irregularities and non-transparencies in cash-flows, not meeting the safety and quality standards.

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## 2.4 SUMMARY

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For the development of any country the infrastructure such as roads, airports, railway network, hospitals, education sector, power and energy generation sector need to be developed. Not only developing but also the developed countries spend hefty amount of funds on these sectors. These are capital intensive projects. For that lot of fund is required. This fund is generated through equity and debt. These capital intensive projects are financed through private as well as public sector financing. The private sector project finance is mainly provided by commercial banks and bond investors. The other sources are vendor finance, lease finance and subordinated debt. In twentieth century the public-private partnership model gained momentum. The large infrastructure projects are financed in PPP mode where the public services and utilities are created by agreement between public sector and private sector.



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## 2.5 GLOSSARY

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**Mandated Lead Arranger (MLA)** – The Mandated Lead Arranger is the bank who leads a group of large project finance investors and facilitates a syndicate loan and also undertakes the risk by underwriting it.

**Ring fencing** – It is a practice of separating certain assets and liabilities from creditors by creating a separate legal entity.

**Public-Private Partnership** - Public-Private Partnership is a partnership between a public sector entity and a private sector entity for the creation, operation and management of infrastructure for public purpose for a specified period of time on commercial terms and in which the private partner has been procured through a transparent and open procurement system.




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## 2.8 TERMINAL QUESTIONS

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- Q1. How public-private partnership model creates win-win situation for both public as well as private sector?
- Q2. Explain lease project finance.
- Q3. Why bond investors are important for project finance?
- Q4. Explain subordinated debt.

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## **UNIT 3 ROLE OF ADVISORS IN PROJECT FINANCE**

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- 3.1 Introduction**
- 3.2 Objectives**
- 3.3 Meaning and concept**
- 3.4 Role of Financial Advisor**
- 3.5 Alternative financial structures**
- 3.6 Project requiring financial advisors**
- 3.7 Essential of a Advisory role**
- 3.8 Portfolio of services**
- 3.9 Other functions specialist financial advisor**
- 3.10 Significance of Advisors**
- 3.11 Project Team Members**
- 3.12 Selecting advisory Organizational Structure**
- 3.13 Summary**
- 3.14 Glossary**
- 3.15 Reference**
- 3.16 Suggested Reading**
- 3.17 Terminal and Model Questions**

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### **3.1 INTRODUCTION**

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Assume an organization has put a project management framework in place. Its a highly adaptive framework that embraces projects in all aspects. This framework adapts to every type of project. Teams are beginning to use it. However, the management is not satisfied. The expectation was that with everyone using a project management methodology, a higher percentage of projects would be successfully completed. So far there has been no measurable impact on project success. What can the management do?

One of the most important organizational contributions to the success of project management has been to set up a project support office (PSO) where a consulting team provides advisory

services such as legal, financial, technical, etc. These can become quite overwhelming for someone who is not familiar with the concept and its practice.

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## 3.2 OBJECTIVES

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After reading this unit, you will be able to understand;

- Role of Financial Advisor
- Alternative financial structures
- Project requiring financial advisors
- Portfolio of services

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## 3.3 MEANING AND CONCEPT

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### Who are the advisors?

Considerable efforts are spent getting a methodology, designed, documented, and installed, but somehow it had little impact on project success rates. In fact, it is big disappointment. Senior management realizes that having a methodology is not sufficient. Sometime more is needed and soon that something appeared: the advisors. The advisors create an opportunity to put an organizational entity in place that ensured compliance. Project success would surely follow. Indeed, advisors functions like an insurance policy to protect the adoption and spread of the methodology.

It could be a temporary or a permanent organizational unit that provides a port-folio of services to support project teams that are responsible for a specific portfolio of projects.

The entities providing advisory services typically are-

- Law firms usually experienced in public/administrative law matters as well as business, financing and tax issues;
- financial advisory companies that may be (i) part of an international accounting and advisory group/network, (ii) investment banks or (iii) smaller entities specializing in PPP or public service management;
- technical firms that are often specialized by sector (transport, social infrastructure, etc.) and
- Public entities, such as national or sectorial PPP units that have been tasked and staffed to advice on projects.

Advisers will not only bring skills and practical experience to the project but also additional capacity to face the unusual, intensive and non-recurrent workload that inevitably arises from

implementing complex projects. The firms may otherwise be exposed to significant risks in delivering the right project on the right terms.

If they are managed efficiently, advisers will work shoulder-to-shoulder with the authority, to enable, foster and implement the best outcome for the project.

Finally, by appointing experienced and reputable advisers, the management of the company will send a positive signal to PPP market stakeholders that its project is well-resourced and deliverable effectively.

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## **3.4 ROLE OF FINANCIAL ADVISORS**

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We have seen very rapid social and economic development in South East Asia in recent years; this progress has brought vastly increased urbanization and all the problems associated with growing urban centres - housing shortages, pollution, employment, congestion, inadequate transportation and so on. On the other hand new techniques in the transportation area have developed at a remarkable pace to relieve the problems posed by rapid shifts in social and demographic patterns.

In the same period, we have also witnessed, with much help from inflation, dramatic even astronomic, increases in the cost of transportation systems. With rising costs, much attention has focused on the financing of such projects; thus, the importance attached to the role of the financial advisor has also grown accordingly. Consequently, that very specialized function has gained wide acceptance in the international financial community from both lending banks as well as major borrowers.

Below are the different roles that advisor play for project financing

### **LENDERS AND FINANCIAL ADVISORS**

All major projects, whether transport-related otherwise, have economic, social, political and sometimes ecological consequences which usually fall outside the terms of reference of the financial advisor. This is particularly true for example, in the case of a major airport development where issues such as noise pollution, relocation of the neighbourhood community and the need to construct additional infrastructure, are important and could have a very significant impact on the overall financing strategy of the airport. Naturally the authority will need to consider these issues and make decisions based on the advice received from all its consultants. Developments may well proceed which are felt to be neither the cheapest nor the most technologically advanced.

Differences of opinion are likely between consultants and compromises are inevitable; it will be up to the authority to resolve them as best it can. As regards the financial advisor, there is a specific conflict of interest on which you need to focus your attention; that is the conflict of interest which arises for a bank if it is acting both as financial advisor to a project developer and also participating in the lending or, worst of all, leading the lending syndicate for the project. The emergence of the independent financial advisor - and I stress the word independent - has done much to allay the concerns of project developers.

The conflict of interest to which we are referring is that relating to the difference in aims of the lender and financial advisor. In contemplating financing for a project, the lender's primary concern is the structuring of the credit with the view to obtaining the best security arrangement. Once he is satisfied with the credit risk, he then focuses his attention on pricing - the interest spread and fees - which is appropriate for the risk involved and whether this pricing will get him the business. In short, the lender tries to obtain the best security and the highest pricing the Borrower will accept.

The financial advisor on the other hand is responsible only to the Project Developer. He acts as an adjunct to the finance and treasury departments of the Project Developer. It is his responsibility to structure the financing package in a manner which will result in finance being available at an acceptable cost to the Project Developer and with minimal security being given. To accomplish this, the financial advisor draws on his reservoir of experience in similar projects and knowledge of how lending banks evaluate and structure credit. His remuneration is normally on a time related basis; there could however be variations to this theme but it should not be linked to the successful raising of the necessary finance, since it could put him on the same side of the table as the lender. It is a great misconception to think that the financial advisor's job is only to keep the lender's margin thin; large scale projects are complex, particularly if several partners are involved. With rapid cost escalations and high interest rates, the financial advisor could reduce the project's timetable significantly and his fees would be minute when compared to the potential savings, which could run at \$100,000 or even \$1 million a day depending on the scale and complexity of the project.

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## **3.5 ALTERNATIVE FINANCIAL STRUCTURES**

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It is now appropriate to quickly discuss generally three basic project financing structures. The first is Guaranteed Financing, which essentially means that the project developer (be it a Government or a statutory board, a quasi government or a private sector project developer) takes all the risks associated with the project by giving formal guarantees for all its borrowings.

It is obviously the cheapest way of raising project finance; it is also the easiest. However, the project developer may be constrained in adopting this method of financing. If it were a Government, it may not wish to have its external borrowing capacity reduced when that capacity is limited, or it may wish to reserve that capacity for higher priority projects. Generally, the financial advisor would see it as part of its responsibility to assess the maximum financial burden that the project developer could assume without in any way limiting its financial flexibility.

The second type of financing structure is **Full recourse non-guaranteed financing** which essentially means the project developer taking all the risks in connection with the project but seeking to limit the need for formal guarantees.

This may be achieved by the project developer giving undertakings, such as assuring a specific level of profitability or cash flow by way of price regulation, which could provide complete security to lenders.

The third financing structure is the **Limited Non-Recourse Financing** which involves the following essential features :

- (i) Lenders would take certain commercial risks. In the case of a bridge or a toll road, lenders could be prepared to take the risks of a minimum traffic usage being met and thus taking comfort in the minimum revenue estimated to be collected being sufficient to meet all outgoings and to service debt and principal repayments.
- (ii) The project developer, which in the above case would be a government or state authority, would not be expected to stand behind the financial obligations of the project; if a default occurred, then such default would not affect the credit worthiness of the Government or the State Authority.
- (iii) Since lenders would be taking commercial risks, they would expect to secure strong covenants regarding the commercial operations of the project and would expect to have rights of compensation in the event that political action prevented their being repaid.
- (iv) In order to generate sufficient non recourse finance, commercial contracts between users and project developers would have to be drawn so as to reduce as much as possible the risks to lenders.

Limited non-recourse financing has obvious attractions; it reduces the risks assumed by the project developer and increases its overall borrowing capacity. On the other hand, it could involve limitations on the project developer's commercial and financial freedom; it would

generally require a higher level of equity finance to be injected in the project than guaranteed or full-recourse financing structures; and it would attract a higher interest rate reflecting the higher risks borne by lenders.

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## **3.6 PROJECTS REQUIRING FINANCIAL ADVISORS**

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We would now be tuning towards the area of project advisory work. Although this is principally a transportation symposium, we feel it appropriate to review, very briefly, the types of projects which could benefit from specialist independent financial advice, and the composition of possible project developers.

### **PROPERTY PROJECTS**

At the private sector end, the most obvious type of project that could benefit from an independent financial advisor would be the large scale property development project. Generally, such projects would tend to be full recourse financings with security inherent firstly in the land; secondly, in the completed project; and finally in shareholder guarantees. Hotel developments on the other hand could be structured on a less stringent security structure provided the hotel management chain, if one were appointed, were prepared to be flexible in its management fee arrangements.

### **INDUSTRIAL PROJECTS**

Moving on from property financing, we have the large scale industrial projects. Here, some form of Government participation is likely particularly in South East Asia. The type of processing plant to be constructed (for example, pulp and paper mills, hydro or electric power generating schemes, and mineral extraction projects) will tend to determine the ultimate financing structure adopted. You will all agree that it would be easier to arrange a financing proposal for a copper and zinc mining and smelting project than for a large scale flour mill simply because copper and zinc are internationally traded, their prices easily monitored and thus have greater marketability than flour.

### **ENERGY PROJECTS**

Next we have the energy related projects such oil refineries, oil and gas collection systems and petrochemical projects; here in South East Asia, you will find Government participation on a significant scale in joint venture with one or more oil majors. Partly because of the scale of such projects and partly because of their complexity, shareholders will be anxious to minimise their risks, for example, by avoiding the need to provide full guarantees - thus the independent financial advisor becomes essential.

## INFRASTRUCTURE PROJECTS

One step on from energy projects come major infrastructure schemes such as port facilities, toll roads, bridges, power generating systems, railway systems and, of course, mass transit systems. These projects are invariably, undertaken by Government departments or Government statutory corporations. Notable exceptions are found in Hong Kong where the majority ownership of utility companies are in private sector hands. In the transportation field, the best known example is the tunnel linking Hong Kong Island to Kowloon, which was financed, built and operated by The Cross Harbour Tunnel Company – a public company listed on the Hong Kong Stock Exchange. In Hong Kong, where the private sector is so strong: Hong Kong Telephone, Hong Kong Electric, China Light & Power, China Motor Bus, the Harbour Tunnel; all of which are private sector companies; Hong Kong's Mass Transit Railway - the MTR - remains firmly in Government hands as its operational losses continue to mount.

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### 3.7 ESSENTIAL OF ADVISORY ROLE

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The following text looks at each of the major components of the advisory role-

#### Temporary or Permanent Organizational Unit

Among the various advisory services, some are temporary structures and some are permanent. That determination is made based on the types of projects that they support, as follow

**Temporary:** Services that are temporary are usually provided the administrative and other supports need of a group of projects that are related by purpose or goal. When these projects are completed, the advisors service is disbanded. A many government projects have Program offices affiliated with them. They are generally long-term arrangements and involve million or billions of currency of funding.

**Permanent:** Advisory services that are permanent provided a range of support services for projects grouped by organizational unit, rather than goal or purpose.

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### 3.8 PORTFOLIO OF SERVICES

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Functions and grouped them into the six service areas as follows:

- Project Support
  - Report project status to upper management
  - Provide advice of upper management
  - Participate in strategic planning
  - Identify, select, and prioritize planning

- Manage archives of project documentation
- Manage one or more portfolios
- Manage one or more programs
- Provide interface between management and customer
- Allocate resources between projects
- Implement and manage database of lessons learned
- Implement and manage risk database
- Provide networking and environmental scanning
- Consulting and Mentoring
  - Coordinate between projects
- Methods and Standards
  - Develop and implement a standard methodology
  - Monitor and control project performance
  - Implement and operate a project information system
  - Develop and maintain a project scoreboard
  - Conduct project audits
  - Conduct post-project reviews
  - Monitor and control performance
- Software Tools
  - Provide a set of tools without an effort to standardize
- Training
  - Develop competency of personnel, including training
- Project Managers
  - Provide mentoring for project managers
  - Promote project management within organization
  - Execute specialized tasks for project financing
  - Recruit, select, evaluate, and determine salaries for project managers
  - Manage benefits

These six groups define what the services offered by the fully functional advisory bodies of the future. The full-service advisory service offers services aligned with the six major functions listed above. They are briefly described in the following sections. Not every advisor will provide all six functions. Deciding on the services to be offered by an advisor is the responsibility of senior management. But all six functions are included in the entire project management process because they are critical to fully supporting the complex project management.

Here is a brief description of the six purposes of an advisor. Unless otherwise stated these services extend across all project types. As the advisor provides that support, there may be differences by project type.

**Project support:** This function encompasses all of the administrative support services that an advisor might offer to a program manager and the project teams. They are as follows:

- Schedule updating and reporting
- Time sheet recording and maintenance
- Report production and distribution
- Report achieving
- Report consolidation and distribution
- Report notebook maintenance

This support services are an attempt on the part of the advisors to remove as much non-value-added work from the project team as it can place it in the advisory services. This would help the project team to focus on the work of the project and not burdened by so-called “administrivia”.

More important, the advisors team will be much more knowledgeable about how to provide these services because they will be very familiar with the tools and systems that support them. Goal of the advisors is to provide these non-value added services at a lower cost than would be incurred if done by the project team. More to the point, the advisors staff members who will actually provide the service need minimal office skills, whereas the project team members’ skill set is not likely to include the skills appropriate to provide these services. Therefore, the service will be provided by a less costly employee who is appropriately positioned and trained for the assignment.

Apart from supporting project teams, the advisors also have an administrative role to play in supporting project portfolio management. Some organizations allow budgeting for administrative support that would be assigned to the project teams. Usually, the needed support is calculated by taking some percentage (10-15 a common) of the total labor planned for the project.

### **Consulting and Mentoring**

Professional project consultants and trainers are available in the advisors profile to support the consulting and mentoring needs of the project teams. In this capacity, they are a safe harbor for both the project manager and team members. The advisors professional staffs, members are available to project teams and project managers on an as-requested basis. They stand ready to help with any specialized assistance. The following is a list of the consulting and mentoring services they can supply:

- Proposal development support
- Facilitating requirements gathering meetings
- Facilitation of project planning sessions
- Risk assessment
- Project interventions
- Mentoring and coaching project managers
- Mentoring senior management

The professional consultants are the most experienced project managers. Their experience is broad and deep. Because they have heard and seen most situations, nothing will surprise them. They are qualified to help the project manager even in the most complex of circumstances.

This includes preparing proposals, gathering and reporting weekly status information, maintaining the project notebook, and assisting with the post-implementation audit.

The staff is uniquely positioned together and achieve best practices from around the company. That makes them particularly valuable as resources of project teams. Those resources are made available to team through the advisors professional consultants.

One of the valuable input in this regard, so facilitate to conduct the project planning session. That relieves the project manager from the facilitation responsibility and enables that manager to concentrate on the project plan itself. The advisors an concentrate or running a smooth planning session. These advisors will have better planning, facilitation skills than the project manager by virtue of the fact that he r she conducted far more planning sessions.

Acting as virtual expert that are out in the field running projects, but have particular areas of expertise that they are willing to make available to others as needed. The advisors simply become the clearinghouse and matchmaker for such services. With this setup, confidentiality is critical.

**Methods and standard:** Methods and standards represent a service that every advisor must provide. A good Return on Investment (ROI) will not happen without a standard methodology and means monitoring and enforcing it. This includes such areas as project initiation, project planning, project selection, project prioritization, Work breakdown Structure (BS) templates, risk assessment, project documentation, reporting, software selection and training, post-implementation audits, d dissemination of best practices.

The following list contains the services included in this function:

- Collaboratively developing project management processes
- Establishing, monitoring, and enforcing standards.
- Project selection for the portfolio.
- WBS construction
- Project network diagram development
- Maintenance of a tools and process library
- Bid preparation
- Risk preparation
- Risk assessment
- Status reporting
- Scope change management process
- Documentation
- Change orders

The establishment, monitoring, and enforcement of standards are major undertaking for newly formed advisors. Perhaps more than any other task that advisors will perform, this one affects the culture an operation of the organization.

Project selection of the portfolio should extend all the way from recommending projects to the portfolio for senior-management consideration to providing complete portfolio-management support for senior management.

Risk assessment should be an area of constant attention by advisors. They have sight of all projects and are in the best position to assemble a library of risk and mitigation strategies to be shared across all projects. Lessons learned from other risk management efforts are valuable lessons. Asking project managers contribute to such a library and to use its contents when planning new projects is wishful thinking. Someone must be in charge of this asset to make it useful to others. The only place where such responsibility should be placed is up on advisors.

**Software tools:** Every advisory body be looking for productivity improvements. As teams become dispersed, it's essential that they remain productive. In this technology-crazed business environment, one cannot let time and distance erect barriers to performance. The advisor is the only organizational unit that can provide the support needed for the ever-changing set of tools available on the market. It is responsible for soliciting, evaluating, lecturing and contracting with vendors of these tools. The following list describes the software services that the organization depends on the advisor to provide:

- Software evaluation
- Software selection
- Software acquisition and licensing
- Vendor negotiations
- Software training
- Software management and maintenance

The evaluation, selection, installation, support, and maintenance of all the software that supports project work is part of the function.

**Training:** Training in project management has probably been around longer than any other methodology an organization is likely to have. Unfortunately, senior management incorrectly assumes that the solution to their high rate of project failure can be found by giving everyone some training in project management. They are looking for that silver bullet, and this simply isn't one to be found. What has happened in many organizations is that several different project management training courses have been taken by the professional staff. Accordingly, there is no central approach that they follow as a result of their training. In a sense, everyone is still doing his or her own thing. Some follow the approach they were taught, others do what they have always done, and yet others teach themselves.

Hence, it becomes important that the advisors and the organization's training department must jointly assume the responsibility of designing and implementing a curriculum that is aligned with the organization's project management methodology. Furthermore, the advisor must assume whatever responsibility the training department is unwilling or unable to assume. Whatever the case, the job must be done. The following list describes the training services that the advisors should be prepared to assist with:

- Project management basics

- Advanced project management
- Project Management Professional (PMP certification exam preparation)
- Specialized topics
- Support of the training department
- Development of courses and course content
- Delivering courses
- Project management training vendor selection

When it comes to project management training, the relationship between the training department and the advisor must be collaborative. The development of the project management curriculum should involve both the curriculum development experts from the training department and the subject matter expert from the advisory group. The curriculum can be delivered either by the advisors or by the training department. If it is to be done by the training department, then the curriculum design must have followed a facilitative design. That relieves the training department from having to find trainers who have practical project management expertise, which is difficult at best.

**Staffing and Development:** In the absence of a Human Resources Management System (HRMS) administered out of an HR department, both project staffing and professional development of project managers is often the responsibility of the advisors. This might be done in collaboration with an HR department that administers an HRMS, but it must be done. Staffing projects with qualified project manager and team members is critical and complex and the HRMS must have the capability of providing that support.

**Project Manager Resources:** The final role of the advisors includes a number of human resource services revolving around project managers. The following list is quite comprehensive-it encompasses assessment, development, and deployment services:

- Human resource development
- Identification and assessment of skills
- Selection of team members
- Assessment of project teams
- Professional development
- Career guidance and development

This function is delivered in one of the following manner:

In some cases, project managers will assign to the advisors. They then receive their project assignment from the advisor.

The more common arrangement is for project managers to be assigned to a business or functional unit. Even in this case, the advisor can still make project assignments and deliver the human resource services listed under this function.

Here the advisors provides a resources to project managers for advice, suggestion, and career guidance regardless of the organizational structure in which the advisors is hired/exists, the

project manager does not have any other safe place to seek advice and counsel. The advisors are ideally suited to this role. A variety of human-resources functions are provided.

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### 3.9 OTHER FUNCTIONS OF SPECIALIST FINANCIAL ADVISOR

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Tasks that fall traditionally to specialist financial advisor. In this role, the advisor would be involved in:

- (i) Reviewing in detail the project's economics and its sensitivity to changes in operating variables;
- (ii) Exploring the potential sources of finance (from export credit agencies, commercial banks and other institutional sources) for the entire cost of the project, including cost over-runs, contingencies and working capital under various security structures .
- (iii) Developing the optimal security structure best suited to the project authority which will enable finance to be raised at an acceptable cost;
- (iv) Evaluating the credit strength of tenderers in order to assess their capability to finance the construction and meet cost over-runs; also, to assess the tenders and negotiate with contractors on the terms and currency of payments;
- (v) Securing in-principle commitments from export credit agencies on the terms of subsidised finance to be provided;
- (vi) Inviting bids on behalf of the project authority from preselected banks to provide commercial finance on the basis of the optimal security structure devised;
- (vii) Studying the terms and the currencies in which finance should be raised to match project cash flows; and
- (viii) Negotiating final documentation with banks and export credit agencies up to completion.

The financial advisor will work closely with the project authority in devising a financing strategy for the alternatives which the project study has indicated are appropriate. The selected strategy will need to be consistent with the authority's and the government's financial policies as well as being acceptable to lending banks and export credit agencies. In this area there may arise differences between the developer and the advisor; for example, the government may not wish to give formal guarantees while the financial advisor may feel that the economics of the project may not permit finance to be raised without such guarantees. The financial advisor must know

and understand his client in order to be able to develop a security structure on which finance can be raised and on terms his client can live with, given the policies and constraints under which his client must operate.

At the end of the day, the primary role of the financial advisor must be to ensure that the finance is available without the project developer having to sell his soul - "if there is no money, there is no project".

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### **3.10 SIGNIFICANCE OF ADVISORS**

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There are at least four reasons why an organization would choose to hire advisors. They are as follows

1. As the organization grows in the number and complexity of the projects in its portfolio, it must adopt formal procedures for managing the volume and diversity of projects. To do this, the organization establishes the procedures that are followed for initiating, proposing, approving, and managing projects.
2. With increased volume comes a need for more qualified project managers. Those who like to become advisors will need to be identified and trained. Those who already are needs additional training to deal effectively with the increased project complexity. The advisory group (hired or own employees) is the depository of the organization's skills inventory of current and developing project managers or experts in their areas. Because managers using the advisors are aware of the types and complexity of current and forthcoming projects, the advisors is the entity that is best prepared to identify the training needs of project managers and their teams.
3. A lack of standards and policies leads to increased inefficiencies and compromises productivity. The increasing failure rate of projects is testimony to that fact. Through the establishment and enforcement of standards and practices, the advisors can have a positive impact on efficiency and productivity.
4. The increased complexity and number of projects places a greater demand on resources. It is no secret that the scarcity of information technology (IT) professionals has become a barrier to project success. The same can be said about the need for more and better qualified business analysts (BAs). By paying attention to the demand for skilled project teams and the inventory of skilled team members, the advisors can maintain the proper balance through training. That requires a close collaboration between the advisors and HR regarding the training function.

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### **3.11 PROJECT TEAM MEMBERS**

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Even when the advisor is responsible for assigning project managers, it is unlikely that they will have that responsibility for team members. That rests with their functional manager. However, advisors have a responsibility for maintaining the inventory of available skills and competencies as an aid for staffing project teams for projects in the portfolio. These same advisors will often have a training and professional development responsibility that may extend

to team members as well. That would place some joint responsibility on the shoulders of the project manager to assign team members according to their skill profiles and in line with their professional development plans. This establishes a collaborative environment between a functional manager, the advisor and the project managers to act in the best interests of the individual.



### *Check Your Progress- A*

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**Q1. Discuss Projects Requiring Financial Advisors.**

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**Q2. What are the advantages of having Advisors?**

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## **3.12 SELECTING ADVISORY ORGANIZATIONAL STRUCTURE**

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Different organizations have taken various approaches to the structure and placement of the advisors. Different forms are discussed in the following section

### **Virtual Vs Real**

A virtual advisor performs all the functions like any other advisory body, except that its staff is allocated to the business unit. These virtual members are available only when their services are needed. They do not perform any routine functions. Other than a director and perhaps an

administrative staff the virtual advisors does not have any other budgeted staff. Professional staffs from the business units that are involved with projects have agreed to volunteer service to the advisors on an as-needed basis. These individuals, who are generally project managers themselves, agree to serve for some time and are then replaced. In any cases, they volunteer to provide only a specified type of service or services.

A real advisor does have a budgeted staff of professional, which includes several senior-level project managers. They perform, several routine functions, such as PMLC process improvement programs, project reviews, training design, training delivery, and software evaluation. The project reviews are a good way to coach other coach managers, monitor the adoption of the methodology, and uncover best practices. Their strength will probably be that they offer a healthy dose of project support services to project teams on an as requested basis.

### **Proactive Vs reactive**

The proactive one aligns very closely with the real form of advisor, and the reactive advisors align closely with the virtual advisors. The real form can be proactive because it has the staff to take leadership roles in a variety of projects to improve project management processes and practices. Conversely, the reactive advisor does not have a staff and does well to just respond to requests for help from project managers and team members.

Its proactive role will extend to monitoring and compliance activities. Its reactive role will extend to supporting project managers and team as and when needed.

### **Temporary Vs Permanent**

Temporary forms of advisors are very short lived, as soon as their portfolio is complete, that are disbanded. Or they may be very long lived and continuously add new projects to their portfolio.

### **Program Vs Projects**

A program is collection of related projects. The related projects always have some dependencies between them, so there is a need for an oversight organization such as advisors. Significant resource management problems will arise because of the inter-project dependencies, and only oversight from the vantage point of an advisor can be effective in resolving such difficulties.

### **Enterprise Vs Functional**

At enterprise level, they must provide services to all disciplines. They are generally well funded and well –staffed. They have visibility at the project portfolio level and at the senior management level and may be involved in strategic roles.

At the functional level, they generally service the needs of a single discipline. They are generally not as well funded or as well staffed as their enterprise-level counterpart.

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### 3.13 SUMMARY

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The advisors serve the needs of a significant part of the enterprise- such as at the division or business-unit level. The sole purpose of advisors is improving the processes and practices of project management for the group of projects and project managers over whom it has a stewardship responsibilities. The success of advisors appointment is measured against the reduction in project failure for which the advisors is held directly responsible and accountable. The advisors also need to have a good sense of the inventory of skills and competencies among all potential members. That will enable them to advise and suggest technical approaches to the project.




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### 3.14 GLOSSARY

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**Actual Finish Date** – The point in time that works actually ended on a scheduled activity. (Note: In some application areas, the schedule activity is considered “finished” when work is “substantially complete”)

**Actual start date** – The point in time that work actually started on a schedule activity.

**Acquire Project Team (Process)** -The process of obtaining the human resources needed to complete the project.

**Activity Sequencing** – The process of identifying and documenting dependencies among schedule activities

**Approved Change Request** – A change request that has been processed through the integrated change control process and approved. Contrast with requested change.

**Brainstorming** – A general data gathering and creativity technique that can be used to identify risks, ideas, or solution to issues by using a group of team members or subjects-matter experts. Typically, a brainstorming session is structured so that each participant’s ideas are recorded for later analysis.

**Expansion Project:** A project that is aimed at increasing the plant capacity of the current product range.

**HRMS** - Human Resource Management System

**PMLC** - Project Management Life Cycle

**PSO** - Project Support Office

**Project buffer** – A time buffer introduced at the end of the critical path by extracting time from all the activities that lie on the critical path.

**Project scheduling** – The process of laying out all the actual activities of the project in the time order in which they are to be performed, keeping in view the logical sequence of the activities.

**Post project audit** – An evaluation of a project after its completion.

**Replacement project** – A project that is aimed at replacing some of the plant and machinery that has been worn-out, with new plant and machinery of the same capacity and specification.

**Slack (of an event)** – The difference between the latest finish time and earliest start time of an event.

**WBS (Work break down structure)** – A process by which the whole project is divided (i.e., broken down) into various sub-projects, the sub-projects into various tasks, the tasks into various sub-tasks and finally the sub-tasks into work packages.



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## 3.17 TERMINAL QUESTIONS

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- Q1. Explain the concept of advisors in project financing.
- Q2. What are the various services that project advisor is expected to perform?
- Q3. Why project advisor is required in any project?
- Q4. Mention various project where advisors role is essential.
- Q5. What are the duties of specialist financial advisors?
- Q6. Elaborate the different advisory organizational structure.
- Q7. Explain in detail the role of financial advisor in the process of project management.
- Q8. If you want to prevent a manager from making an investment, how do you ensure they understand the risks?
- Q9. How would a project manager check the accuracy of project financier work?
- Q10. What methods/metrics do advisor use to evaluate a company's performance?

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# UNIT 4 PROJECT DEVELOPMENT AND MANAGEMENT

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## 4.1 Introduction

## 4.2 Objectives

## 4.3 Project development

## 4.4 Cost Estimation and Project Management

## 4.5 Summary

## 4.6 Glossary

## 4.7 Answer to check your progress

## 4.8 References

## 4.9 Suggested Readings

## 4.10 Terminal Questions

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## 4.1 INTRODUCTION

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In the previous unit you have understood the role of advisors in the project financing. For the investors or developers of the project with their expertise they bridge the gap between the expected and the actual project. In this unit we will try to understand the different stages and the development of the project before the project is commenced. Planning is to be made in such a way that the project delivers the result as expected prior to the starting of the project.

As we know that the need of the day is large and sustainable infrastructure for the development of the economy and nation as a whole. This requires commitment of funds for long term in nature. Cost of failure of the project after the planning, development and management of the projects can be very costly for the organizations and the investors. So, to make this failure proof the investors wish to have a plan which can make certain the estimation of the project at different stages and judge the course and success of the project as it progresses.

The whole process goes through the various stages of idea generation, idea evaluation and selection of the most profitable project idea for the investors based on the projected outcomes in the future. Projects are selected based on different criteria depending on the time horizon of the investors, availability of funds, future prospects of the project, market availability and demand projections for the product in future, etc. These factors are incomplete without consideration for the cost factors involved with the different stages of the project. The costs

are dependent on various factors like inflation rate, interest rates and exchange risk prevailing within the country and the international markets. At project development and management stage the cost estimates help in deciding the source and implementation of the funds on the projects. For this the estimates had to be reliable and justifiable based on the present market conditions and the experiences and suggestions of the project advisors. Otherwise it would be impossible to carry the financial appraisal, preparing the business plan, creating project budget sheets and other detailed reports. It empowers the project managers to have a control over the other cost factors like raw material, human resources, machines etc.

Primarily we will discuss it in length the generation and screening of project ideas, phases of the projects and the cost estimation for having effective management of project. These factors will help to ensure maintain and attain the objectives of the project while ensuring it to be restricted as a planned activity based on different phases of the project.

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## 4.2 OBJECTIVES

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After reading this you would be able to understand:

- Understanding the idea generation and selection
- Understanding the phases of project
- How cost estimations are made for project management.

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## 4.3 PROJECT DEVELOPMENT

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Planning and evaluation of the different aspects of the project decides the success and returns in future. This exercise is to be done with care and caution because it decides the growth rate and direction of the whole organization in future. The ideas generated had to go through severe testing mechanisms so that they get financial investments. In this direction the project feasibility study is conducted first had before committing funds for the selected project idea. The feasible project has to go through the detailed study to get into minute details. Details like cost benefit analysis are given due weightage as it helps in estimating the cash flows in future. The cash flows of future are depended on the various risk factors which are internal and external in nature. These factors are considered and a discount factor is considered to generate the required rate of return from the project . This make sure maximum returns without increasing the risk during the economic years of the project.

The stages of project development primarily include:

- Idea Generation
- Screening of Ideas

- Cost Estimation
- Selection of Ideas
- Implementation of Idea
- Evaluation and control

In the following part of the unit we will try to understand the various aspects of the project idea generation, screening and different phases of the project financing. This requires judicious understanding of the environmental conditions and the capabilities of the organizations to develop concepts into realities. The business environment consists of economic factors, government sector, technology, socio-demographic aspects, competitors and the presence of buyers and suppliers.

For its internal capabilities the organizations go for SWOT analysis to understand realistically the strengths and weaknesses so that the opportunities from the external environments can be utilized better.

#### **4.3.1 GENERATION OF PROJECT IDEAS**

Implementing a successful idea leads to fruitful returns by the project in the future. But the question comes, from where shall we get an idea which can be converted into a return yielding investment of future. The traditional approach in this direction is the search for the operational objectives behind such idea generations , can be like:

- Project should reduce the cost of product
- Project shall improve productivity
- Project shall have the capability to have efficiency and effectiveness for capacity utilization
- Project shall support to meet the market demand
- Diversification into new businesses
- Modernization of the existing business through such project with technological advancements
- Extension of the existing business through the new project with
- Availing tax benefits through projects

The other approach is SWOT analysis which ensures that the strategic plans, budgets and operating plans are backed by the situational analysis. in realistic terms it makes the project plans achievable. SWOT analysis stands for Strength, Weakness, Opportunities and Threat analysis. Here the internal factors are the Strength and Weaknesses of the organization, while

the Opportunities and Threats are posed to the organization by the external environment in which the business exists.

Every organization considers the projects that:

- Increases the strength of the organization.
- Reduces the weaknesses of the organization
- Support organization in getting benefited from the opportunities from external environment
- And accepting the project that helps in reducing the threats from the external environment.

The most promising tools and framework that are defined to make strategic decision by the investors are:

1. Porters Five Forces Model
2. SPACE model
3. Life Cycle Approach

#### **1. Porters Five Forces Model: (See figure 4.1 Porters Five Forces Model)**

In this model Prof. Michel E. Porter had made a perfect demarcation between the factors that are accountable for the competitive advantage of the industry. So projects that support industry in increasing the strength by having it equipped for better feature after analysing the effecting five competitive forces:

- i) Threats from new entrants
- ii) Threats from substitute products
- iii) Rivalry amongst the existing firms
- iv) Bargaining power of suppliers, and
- v) Bargaining power of the buyers

**i) Threats from new entrants:** In an existing industry there are always threats from the new contestant in the form of reduction in market share due to price wars, better marketing and competitive and sometimes lower prices; offers to attract competitors' customers, technological advantage, products with added features, customer looking for a change can have option to change.

Existing industry firms try to get rid or reduce this risk by attaining competitive advantages. For this they form groups, have representation get heard by the governments to safeguard their interests. Government as a major stakeholder ensures that the interest of the economy is taken care of and betterment of the industry can take place. The industry tries to attain competitive advantage by;

- Reducing this threat by having competitive advantage due to Economies of scale that is not possible for a new entrant to achieve in the initial years of entry.
- Having proprietary product disparity in the form of copyrights and patents.
- Strong brand identity available with the firm and its recognition by the customers and the industry as a whole.
- Higher switching costs reduce the entry of the new competitors.
- Here switching cost refers to the cost associated with shifting from one product or industry to other products or industries.
- Higher capital requirements for capital intensive industries like steel, cement, ores get less competition from small investors due to long term funds blockage and cost of capital.
- Less access to distribution channels distracts the new entrants to enter into the industry
- Availability of absolute cost advantages with the firms reduces the margins for the other competitors to offer product at such competitive prices.
- Stringent or restrictive policies of government stop new entrants for example in India competition in space exploration and arms and ammunition is specifically with the Indian government, so the government had powerful stake in this area.

**ii) Threats from substitute products:** Substitute products sometime replace the existing products and reduce their market share too. For example, refined oil was once an alternative or substitute option for the vegetable oil, but it had now captured the major share of not only vegetable oil but had been an alternative for the costly ghee or butter. So, to get rid of such substitutes the firms try to have;

- A better price performance than the substitutes,
- Higher switching costs for such alternatives so that it becomes tough for them to have many products in their portfolio to offer to the customers.
- Reducing buyer intention to try the substitute alternative

**iii) Rivalry amongst the existing firms:** Competition amongst the different firms of the same industry takes place for increasing or retaining the existing market share. For this

company uses price, quality, product features, patents and copyrights, services, etc to be competitive in the market. Due to these reasons the profit margins get reduced and so does the profitability. Hence it becomes tough for the new entrants to enter and get profitable.

The other reasons for rivalry amongst the industry player are:

- Rivalry is generally more for the industry with higher growth rate.
- Industries requiring higher investment in fixed costs.
- Industries having overcapacity and unutilized resources.
- Industries with existing product differences.
- With long term existence brand identification becomes an edge for the existing companies.
- Some of the firms remain in the business due to higher switching costs and exit barriers.
- Presence of diversity amongst the competitors allows space of the existing competitors only .
- Companies acting as subsidiaries or ancillary units with corporate stakes had to remain in the competition.

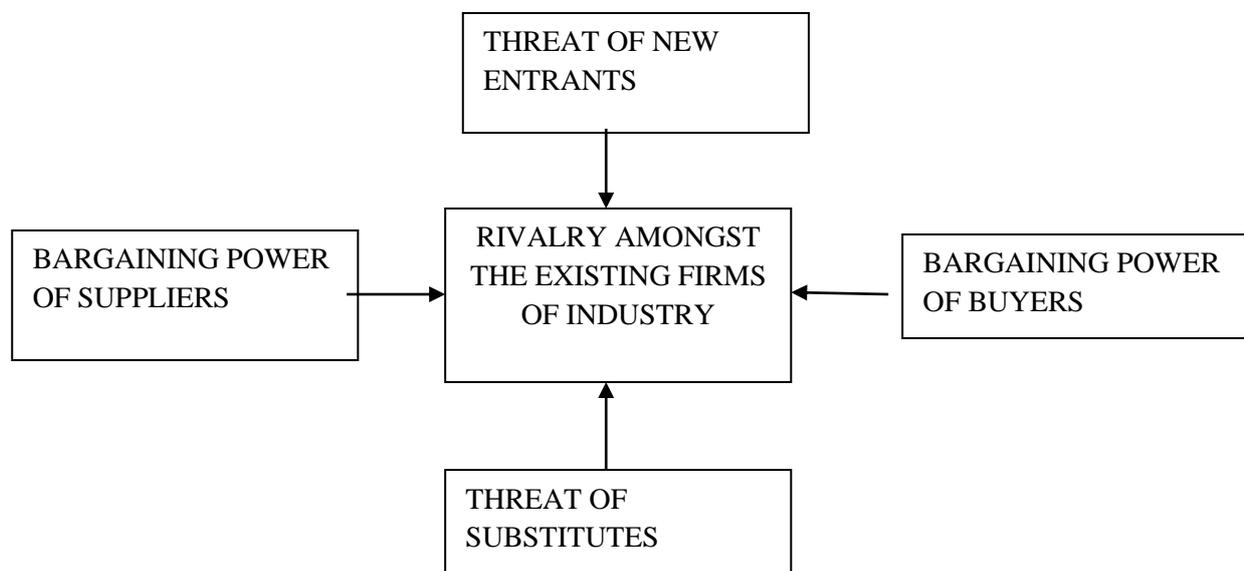
**iv) Bargaining power of suppliers:** If the suppliers increase the prices of the components of the product then its prices will also increase. For firms with such suppliers lose their competitive advantage to the other competitors. Dependency for such raw material on suppliers hurts the profitability of the firm. Suppliers become get more bargaining powers due to:

- Differentiation of inputs which are supplier by specific suppliers .
- Higher switching cost of suppliers and firms of the industry make the supplier more attain more bargaining power .
- Less presence of substitute inputs for the firms.
- Association due to supplier concentration at the same place make them decide the price and don't allow them to lose their advantage to the buyer firms or industries .
- Presence of a few volume suppliers make them more important as they only can meet the buyers demand and decide the price with strong monopoly.
- Cost and importance of raw material from specific suppliers for the total purchases by the specific industry.
- If the suppliers are competent and motivated enough to go for forward integration and start producing the same product make them have more bargaining power. While it gets reduced if there is any threat of backward integration by firms in the industry to break such monopoly or bargaining power of such suppliers

v) **Bargaining power of the buyers:** In case of the buyers having union or association which fights for the price and other interest of theirs , it make them attain more bargaining powers. They can demand for better services, quality and related features from the products, which effectively increase the cost and reduces the profit margins for the firm. Buyers bargaining power reduces with the development of new and developing markets for the products of the firm.

The primary reasons of buyers having more bargaining power is due to:

- Buyers association or unions being more powerful than that of the firms or industries.
- Buyers have high volume demand for the products of the firm .
- Buyers switching costs is low than that of the firm switching costs makes it tougher for the suppliers to take a competitive edge over the buyers .
- Better equipped and informed buyer can use information and demand better.
- Higher availability of substitute products for the buyers , etc



**Figure 4.1 Porter's Five Forces Model**

## 2. SPACE Model

The Strategic Position and Action Evaluation Matrix (SPACE) was developed by Prof. Alan Rowe, Prof. Richard Mason and Prof. Karl Dickel. The SPACE matrix is an effective management tool that helps in analysing the strategy of the company. It can be used with the other analysis tools like SWOT, BCG Matrix etc.

Based on the analysis of the position of the firm, it can decide which type of project it should accept to get the maximum benefits out of it. For this the matrix suggests the four quadrants, See Figure 4.2 Format of SPACE matrix:

1. Aggressive
2. Conservative
3. Defensive, and
4. Competitive

Company should go for having a competitive advantage over the others, so project should support in this direction. An idea which can make this happen is definitely a point of consideration for the management of the company. Before going for any of the strategy the SPACE matrix helps in analyzing the factors (detailed factors are in Table 4.1 Factors of SPACE matrix) :

1. Company's competitive advantage (-6 is worst, -1 is best)
2. Industry Strength (1 is worst, 6 is best)
3. Company's Financial strength (1 is worst, 6 is best)
4. Environmental stability (-6 is worst, -1 is best)

**Table 4.1 Factors of SPACE matrix**

<b>Internal factors</b>	
<p><b>1. Company's Competitive Advantage</b></p> <ul style="list-style-type: none"> <li>• Higher market share</li> <li>• Better product quality</li> <li>• Effective stage in Product Life Cycle (PLC)</li> </ul>	<p><b>1. Company's Financial strength</b></p> <ul style="list-style-type: none"> <li>• Increases Return on investment</li> <li>• Supports in leverage</li> <li>• Increases the cash flow for the firm</li> </ul>

<ul style="list-style-type: none"> <li>• Its position in product replacement cycle</li> <li>• Having customer loyalty</li> <li>• Competitors inability for capacity utilization</li> <li>• Having technological expertise</li> <li>• Having vertical integration</li> </ul>	<ul style="list-style-type: none"> <li>• Ease of exit from market</li> <li>• Risk involved in business</li> </ul>
<b>External Factors</b>	
<p><b>2. Industry Strength</b></p> <ul style="list-style-type: none"> <li>• Higher growth potential</li> <li>• Higher profit potential</li> <li>• Improves the technological know how</li> <li>• Helps in resource utilization</li> <li>• Capital intensity</li> <li>• Difficulty to entry into market</li> <li>• Improve productivity and capacity utilization</li> </ul>	<p><b>2.Environmental stability</b></p> <ul style="list-style-type: none"> <li>• Technological changes</li> <li>• Rate of inflation</li> <li>• Demand variability</li> <li>• Price range of competing products</li> <li>• Barriers to entry into market</li> <li>• Competitive pressure</li> <li>• Price elasticity of demand</li> </ul>

Now the SPACE matrix is used to judge the importance of all of these dimensions on the Cartesian graph with X and Y coordinates. As per the definition the assumption is that CA and ES values range from -1 to -6, while the IS and FS values ranges between +1 to +6, the CA and IS values are plotted on the X axis while the FS and ES values are plotted on the Y axis.

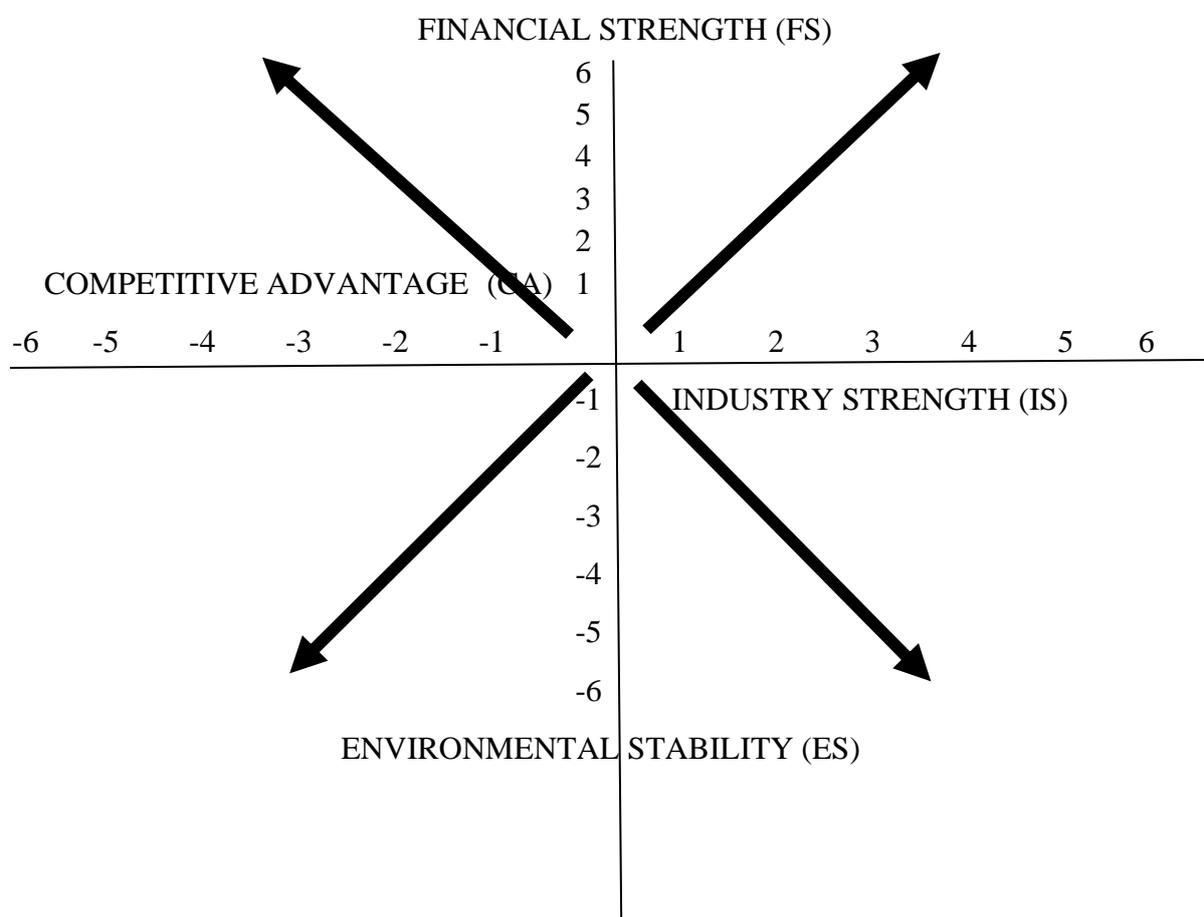
Based on the results the different postures will occur, these postures will suggest the nature of strategy to be supported by the project, like;

Aggressive posture when all the dimensions are positive and project idea should be there to grow the business and market share.

Competitive posture becomes relevant when the firm has strong competitive advantage but its financial strengths is not sufficient to compensate for environmental instability. To support this financial strength needs to be strengthened by raising capital, cost reduction etc.

Conservative posture is visible when the firm in financially stable but lacks the capability for the return on investments. Project idea should be there to support diversification and options for having competitive advantage.

Defensive posture arises when all the four dimensions show poor results. At this juncture the project idea should be there to support the strengths of the firm and help in bearing the tough times.



**Figure 4.2 Format of SPACE matrix**

### 3) Life Cycle Approach

It's a well understood now that as living object the firms and product have also a life cycle. They are born, grow and die as time progresses, it's the management and its vision which keep it's in line with the changing business world.

Idea generated should bear in mind the stage of the firm/product in the life cycle. Management's recognition for project starts with the suitability of the product as per the life stage and vision of the firm. The Life cycle approach states that the product had four major stages:

- i) **Introduction stage:** At this stage the firm introduces the product with features it can introduce with new technology and intellectual rights with it. Due to this there can be similar products that will try to enter into this business, and hence will increase the competition level. But the most innovative and sustainable idea will be able to survive and flourish in future.
- ii) **Growth stage:** With a strong introductory phase the firm/product moves to the next stage, i.e., growth stage. At this stage each product tries to capture the market share and earn profit for the organization.
- iii) **Maturity stage:** this is also the stabilization stage after the completion of the growth stage. Generally the firms/product get the best out of the market and it's high time to perform or otherwise perish.
- iv) **Decline stage:** if nothing is introduced, modified, advancements, diversified as new to the market and without any change for future, the firm/product generally dies its natural death.

#### 4.3.2 SCREENING OF PROJECT IDEAS

Through the suggested matrixes and tool and techniques the list of most promising ideas for the project can be prepared. But the issue now is to finalize only the most promising idea which can be the best promising project for future. The primary screening is considered to eliminate the ideas which are not suitable for the firms or organizations. In this regard the following phases can be considered:

Management vision and mission: Idea shall be in line with the vision and mission of the management. In this way it should support the organization at present and in future. Organization acts as a responsible citizen and they don't wish to venture into business ideas which are not ethically correct or are not considered being as per the vision of the organization. As in long run it damages the brand image of the organization as a whole.

Resources availability: resources add price to the product, so if the product requires costly inputs or resources than the final price of the product has to be costly. Gaining market share and lead in the market becomes tough for such products. So, project ideas with easy availability of resources are well accepted by the investors as they found them to be feasible.

For example, the developing countries are able to attract projects where the resources are easily available within their national boundaries and with the help of information, communication, telecommunication and transportation world had become a single market place without boundaries. Producing vehicle in India is cheaper than producing it somewhere else due to availability of cheap raw material. Due to this reason any multinational companies establish their project to get the benefits out of these opportunities.

Demand in the market: if the project idea is able to bridge the gap between the market demands and supply it with product, it's well accepted for financial investments. Based on the life cycle approach if the product is able to meet the market demands it becomes a grand success. If with its capabilities and resources like channels of distribution, a firm can plan for exploring domestic and international markets that it can get benefitted from the price differentials that exists between the countries.

For example, producing typewriters can be seemingly a business idea but without any demand-supply gap it's of no worth to invest in such projects.

Cost competitiveness: If companies have cost advantages than its better to invest in project. For example coffee bean and tea producing firms had advantage of having raw material and cost advantage with them. So if they make a decision to invest in project to market the final product to the consumer, that's seemingly a good business avenue for them. The primary reason is their control over the cost factors.

Government policies: Idea generated for project financing should consider the policies promoted by the government. This helps in getting permissions and approvals with ease. The idea should be in the interest of the economy and the nation. The future of the project depends on its capability to generate financial and social opportunities for the citizens of the country. For example, setting up pharmaceutical units at some states in India is convenient due to the state government's promotional policies. This way the state governments are able to attract funds in their states and are able to generate employment opportunities.

Idea screening will decide which of the ideas can be possible within the above stated primary criterions.



### Check Your Progress- A

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**Q1. Discuss the stages of project development .**

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**Q2. What is the significance of Porter's Five Forces Model.**

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**Q3. MCQs**

i. Opportunities and Threats are

- a) Internal to the organization
- b) External to the organization
- c) Both (i) and (ii)
- d) Non of (i) and (ii)

ii. State which of the following is not a quadrant of SPACE matrix

- a) Aggressive
- b) Conservative
- c) Defensive
- d) Cooperation

iii. State which of the following is not a stage of Life Cycle Approach;

- a) Introduction

- b) Growth
- c) Maximization
- d) Decline

**Q4. Fill in the Blanks with appropriate word or words.**

- i. SWOT analysis stands for \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_
- ii. SPACE matrix stands for \_\_\_\_\_ and \_\_\_\_\_
- iii. In SPACE matrix Company's competitive advantage \_\_ is worst and \_\_ is best.
- iv. For screening of ideas it should be aligned with the \_\_\_\_\_ and \_\_\_\_\_ of management.

### 4.3.3 PHASES OF PROJECT

After the initial process of idea generation and screening for the project, now we need to understand what does it need next to proceed further? For a better understanding of project identification and implementation we have to understand the different stages of the project financing. Based on these the need and sources of funds for the project can be identified further. Organization need to plan it better for the project due to the cost of capital involved in the decision making. Organization will always try to reduce the cost to make the profitability from the project to be better. There are three phases in project financing and they are:

1. Pre Financing phase
  2. Financing phase
  3. Post Financing phase
- 1. Pre Financing phase includes:**
- a) Project identification
  - b) Risk identification and minimizing
  - c) Technical and financial feasibility
- 2. Financing phase includes:**
- a) Equity arrangement
  - b) Negotiation and syndication
  - c) Commitments and documentation
  - d) Disbursement

**3. Post financing phase includes:**

- a) Monitoring and review
- b) Financing closure/ project closure
- c) Repayments and subsequent monitoring

We will read about these topics in depth in the following units as per the need of the subject.

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## **4.4 COST ESTIMATION AND PROJECT MANAGEMENT**

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After the initial stages of the project idea selection one of the prominent decision-making support is to analyze and estimate the cost. Cost estimation leads to final decision making, budgeting and other control measures to be adopted for the project in future. By this way the yardstick is set through which the accomplishment of the project is judged during the project development. By these way investors, shareholders and other stakeholders can get satisfied with the progress of the project.

Through the cost projection the decision makers reduce the risk and the occurrence of certain events in future, with proper planning and risk analysis. They can also control the whole process through proper budgeting.

Project cost can be divided into:

**1. Fixed and Variable Costs:**

Fixed cost include cost which remain the same all through the project life cycle, for example the setup cost, rental cost, cost of hiring of equipment for establishment of the project, etc.

Variable cost as the name suggests this cost varies with the project life cycle, for example production material costs, cost of inputs like power and electricity, etc.

**2. Direct and Indirect Cost**

Direct cost can be directly associated with the department or product and are generally associated with the particular activity, for example direct material expenditure for a particular product.

While Indirect costs are like overhead items which are not directly associated with the products production like corporate taxes, etc.

**3. Opportunity Cost**

It is the cost of next best alternative foregone for selecting one of the project ideas.

For a project we will see that the cost spreadsheets are prepared that contain all the information regarding the resources utilized during the production. Resources like labor

material, financial resources, infrastructure and special categories like contingency and inflation allowances increase the cost of the product.

### Project Cost Estimation Process

We now know about the different kinds of costs and the need of preparing the cost spreadsheet. Through the cost estimation we would be able to determine the resources that would be required to make it successful. Now we need to see the different alternatives to plan for the project, execute it and deliver the project on the pre decided date. Cost wise we have to now suggest the optimal cost for the project development and its management.

At this stage when the project will start functioning in future we have to make it achieve the goal for the organization behind setting it and make it successful. Success can be defined on various parameters ranging from cost reduction to profit maximization, but broadly we can say a successful project is the one;

- Who gets completed as budgeted or project and on scheduled time
- The standards for quality are met
- Return on the investments can be ensured for the investors, shareholders and other stakeholders

To make the cost estimation accurate the process involves several techniques and tools, they are used in combinations or independently. The tools and techniques are:

1. **Analogous review:** For this we consider the cost of the similar projects which were established earlier. Due to this it is also known as 'Historical data analysis'. In this method we use the historical information which were established earlier and costs of this historical establishments are used as base to estimate for the current project.
2. **Parametric Model:** This method is used independently or in combination with the other tools and techniques for cost estimation. In this model the historical and statistical data is used and the cost estimations are made for the current project. Relying on such data the accuracy for the successful project can be ensured.
3. **Bottom-up Analysis:** All the cost factors are considered independently for the whole project in pieces for the individual cost components. This is done to consider the minute details of the project for the betterment and project estimations to be accurate. Later for the effective decision making for evaluation, control and reporting the cost of similar nature are clubbed together under different categories and sorted accordingly.
4. **Top-down Analysis:** Instead of clubbing of the costs into separate heads like done in Bottom- up analysis, this analysis considers the overall cost. This analysis determines the project's cost factors from the initial phases of the project in the Work Breakdown Structure (WBS). WBS considers the necessary work items and packages for cost estimation. Based on these items and packages the experts judge the quantity of work that is deliverable within the resources available with the project. Based on the cost as

per the items and packages, the addition or deletion of the items can be done as per the budgets.

5. **Reserve Estimation:** This method had its importance due to its capability to handle the situations where there is an overstated or understated project cost. This method reviews such shortfalls and helps in assuring the quality and control over the project. In this method we consider the contingency allowances or reserves for overcoming the price escalations due to uncontrollable and uncalculated uncertain conditions. Through the putting of reserves in the cost estimation the risk is mitigated from the project life cycle.



### *Check Your Progress- B*

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#### **Q1. Discuss the different phases of Project**

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#### **Q2. What are the different types of cost in project financing?**

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#### **Q3. MCQs**

- i. Successful project is the one;
- Gets completed as budgeted or project and on scheduled time
  - The standards for quality are met
  - ROI on investments can be ensured for the investors, shareholders and other stakeholders
  - All of the above
- ii. Which of the following is not a cost estimation tool or technique ?
- Top Down Approach
  - Bottom-Up Approach

- c) Reverse Engineering
  - d) Parametric Model
- iii. Cost of inputs like power and electricity, is a
- a) Fixed Cost
  - b) Variable Cost
  - c) Direct Cost
  - d) Indirect Cost

**Q4. Fill in the Blanks with appropriate word or words.**

- i. Three phases in project financing are \_\_\_\_\_ .
- ii. Equity arrangement, Negotiation and syndication, Commitments and documentation, and Disbursement are part of \_\_\_\_\_ phase .
- iii. \_\_\_\_\_ are prepared that contain all the information regarding the resources utilized during the production.
- iv. For a successful project \_\_\_\_\_ on investments can be ensured for the investors, shareholders and other stakeholders.
- v. \_\_\_\_\_ considers the necessary work items and packages for cost estimation.

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## **4.5 SUMMARY**

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All the businesses had vision for growth and profits. Investment in projects that lead in this direction is that each business looks for. But the question arises which of the project idea is to be selected and how?

For this we evaluate the position of the firm from different angles and perspectives. We had seen the various dimensions on which the evaluation is made to come out with the project that's help organization in attaining competitive advantage, increase market share and improve its financial strength.



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## 4.6 GLOSSARY

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**SWOT-** Swot stands for Strength, Weakness, Opportunities and Threats

**SCOPE-** Strategic Position and Action Evaluation Matrix

**WBS -** Work Breakdown Structure



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## 4.7 ANSWERS TO CHECK YOUR PROGRESS

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### Check Your Progress –A

Q3. i. b

ii. d

iii. c

Q4 i. strength, weakness, opportunities and threat analysis.

ii. strategic position and action evaluation matrix

iii. -6 and -1

iv. vision and mission

### Check Your Progress - B

Q3.

i. d

ii. c

iii. b

Q4

- i. Pre Financing phase, financing phase and post financing phase
- ii. Financing
- iii. Cost spreadsheets
- iv. ROI
- v. Work Breakdown Structure




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## 4.8 REFERENCES/ BIBLIOGRAPHY

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## 4.9 SUGGESTED READINGS

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1. Economic Intelligence Unit [www.eiu.com](http://www.eiu.com)
2. Prasanna Chandra, “Projects Preparation, Appraisal, Budgeting and Implementation” Tata McGraw Hill Publishing Company Ltd., New Delhi.
3. Vasant Desai “Project Management’ Himalaya Publishing House, New Delhi.




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## 4.10 TERMINAL QUESTIONS

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- Q1. Comment on usage of SWOT analysis for the project idea generations?

Q2. How is Porter's five forces model used in industry analysis and selecting the project ideas?

Q3. How the SPACE model be used by the firms to decide about its projects of the organization for the future?

Q4. How the cost estimation does helps in deciding the project idea suitable for the firm? Elucidate how does it work.

Q5. How the project finance manager uses cost spreadsheets for managing risk in the project financing ?

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## **UNIT 5 VALUING THE PROJECT AND PROJECT CASH FLOW ANALYSIS**

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- 5.1 Introduction**
- 5.2 Objectives**
- 5.3 Project Cost**
- 5.4 Sources of Finance**
- 5.5 Cost of Production**
- 5.6 Working Capital Requirement**
- 5.7 Estimation of Profitability / Project Cash Flow**
- 5.8 Project Valuation and Cash Flow Analysis**
- 5.9 Projected Cash Flow Statement**
- 5.10 Summary**
- 5.11 Glossary**
- 5.12 References**
- 5.13 Suggested Readings**
- 5.14 Terminal Questions**

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### **5.1 INTRODUCTION**

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In the previous unit you have studied the different stages of project such as idea generation, selection, planning, cost estimation and project development. In this unit you will study about the project evaluation, the project cost, sources of finance, cost of production and project cash flow statements.

Project finance has not been a new concept. According to historians it is in practice from the times of Greeks and Romans sea adventures when they used to take sea loans to finance their sea voyages and share the risk associated with it from storms and pirates. In the late nineteenth century, lot of limited recourse lending was done to finance railways, oil and gas projects. So, what is project finance? Let's understand it from the definitions given by the various authors.

“Project finance is generally used to refer to a non-recourse or limited recourse financing structure in which debt, equity and credit enhancement are combined for the construction and

operation, or the refinancing, of a particular facility in a capital-intensive industry.” – Andrew Fight.

“The financing of the development or exploitation of a right, natural resource or other asset where the bulk of the financing is to be provided by way of debt and is to be repaid principally out of the assets being financed and their revenues.” – Dentons

“Project finance is a method of raising long-term debt financing for major projects through ‘financial engineering,’ based on lending against the cash flow generated by the project alone; it depends on a detailed evaluation of a project's construction, operating and revenue risks, and their allocation between investors, lenders, and other parties through contractual and other arrangements.” – E R Yescombe.

“Project finance is the structured financing of a specific economic entity—the SPV, or Special-Purpose Vehicle, also known as the project company—created by sponsors using equity or mezzanine debt and for which the lender considers cash flows as being the primary source of loan reimbursement, whereas assets represent only collateral.” Stefano Gatti.

Project finance is the financing of the long-term, capital intensive infrastructure for public utilities and industrial projects with the help of limited or no recourse loans where the capital and interest is repaid from the cash flows generated by the project. The project structure involves sponsors who are the equity investors and lenders who are lending institutions or a syndicate of banks. The lenders provide loans for the operation of the project which are limited or non-recourse and secured by the project assets only. They are repaid from the cash flows generated by the project. Some of the examples of project finance are oil and gas, power, mining, telecommunication, etc. These are the large projects which require large capital funding and it is done through project finance. The project is considered as a standalone financial entity, separate from the company which is undertaking the project i.e. non-recourse to the assets of the company. The capital repayment and the interest are paid only from the cash flows generated by the project. These debts will not be repaid using the assets of the company.

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## 5.2 OBJECTIVES

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After studying this unit, you should be able to;

- Understand the cost of project
- Understand how the valuation of project is done.
- Describe the sources of finance available to finance a project.
- Describe the cost of production and working capital requirements.
- Describe the cost of capital.
- Understand about the projected cash flow statements and balance sheets.

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## 5.3 PROJECT COST

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For every firm or company, private or public, budget is very important. The decisions regarding expenditure on the various inputs of production, tools and techniques, cost of capital, etc. are the most important decisions for any company to take due to their long-term effects, irreversibility and substantial outlays. In a large plant the outlay on specific or custom-made equipment will be substantial and if the equipment does not meet the specific requirement then there will be loss and the decision taken cannot be reversed. Therefore, the capital expenditure decisions need to be done very carefully and project evaluation is very important for that. The project cost estimation helps in scheduling of the various project activities and their cost considerations, any variation in the cost, risks associated with them, etc. In cost estimation different costing alternatives are identified and considered.

The cost of the project depends on following components:

1. Land and building
2. Plant and machinery
3. Technical consultation and training
4. Fixed assets other than plant and machinery
5. Preliminary Expenses
6. Expenses incurred in raising capital
7. Pre-operative expenses
8. Margin money for working capital
9. Miscellaneous expenses and contingency fund

### 5.3.1 LAND AND BUILDING

The cost of the land includes the basic cost of land if purchased or the premium to be paid if taken on lease, leveling and development cost, cost of internal and approach roads, water and electricity cost, etc. It is dependent upon the location as in urban areas cost of land and site development is high as compared to the rural areas.

Building cost mainly includes cost of civil works, building for the plant and equipments, workshops, laboratories, warehouses, water supply, power station, godowns, basins, tanks, hoppers, chests, bins, and other structures necessary for installation of the plant and equipment, sewers, drainage, staff offices, staff quarters, guest house, canteens, etc.

### 5.3.2 PLANT AND MACHINERY

It is the main component of project cost. It includes cost of imported machinery and indigenous machinery and all the costs related to them such as import, transport, taxes, loading and unloading of these machines, etc. It also includes the cost of spares and stores.

### 5.3.3 TECHNICAL CONSULTATION AND TRAINING

Purchasing plant machinery is not sufficient. Knowing how to operate it, maintain it or troubleshoot it is equally important. For that technical consultation is required. Many times the collaboration with local or foreign technical firm is required for setting up plant and

machinery, training people to operate it, for supervising and troubleshooting in the initial stage. This consultation charges paid for the technical know-how and engineering training and services are included in the project cost.

#### **5.3.4 FIXED ASSETS OTHER THAN PLANT AND MACHINERY**

There are other fixed assets which are not part of direct manufacturing process. They are office furniture and equipments, vehicles, electricity, boilers, generators, transformers, firefighting equipments, workshop equipments, laboratory equipments, etc. They also include non-tangible assets such as licenses, copyrights, trademarks, patents, etc. All the cost regarding these must be considered while calculating the project cost.

#### **5.3.5 PRELIMINARY EXPENSES**

Project development phase starts with identifying the project. Once the project is identified, its market feasibility and economic viability is checked. Based on the positive feasibility and viability report, the next stage is incorporating the company, drafting the memorandum and articles of association. All the expenses incurred in these stages are termed as preliminary expenses and they form the part of project cost.

#### **5.3.6 EXPENSES INCURRED IN RAISING CAPITAL**

When capital is raised from the public, there are various entities involved in the process. They include brokers, underwriters, portfolio managers, registrars, advertising firms, stock exchanges, etc. The expenses incurred on them are referred as capital issue expenses and they are included in the project cost.

#### **5.3.7 PRE-OPERATIVE EXPENSES**

All the initial expenses before the start of commercial production are pre-operative expenses which include establishment and set-up expenses, rents, taxes, travelling expenses, interest on the borrowings, mortgage expenses, insurance premiums, start-up expenses, etc. As they are directly dependent on the schedule of project implementation, any delay in implementation results in increase in these expenses. Generally, a little provision is made for these expenses as some delay is expected in implantation.

#### **5.3.8 MARGIN MONEY FOR WORKING CAPITAL**

It is the portion of the loan amount which is blocked and kept by the financial institutions and is released when there is any shortage of working capital or the project is completed. It is an important component of the project cost

#### **5.3.9 MISCELLANEOUS EXPENSES AND CONTINGENCY FUND**

Certain amount is kept aside for contingency or unforeseen situation. It includes expenses arising due to higher inflation than the considered one, rise in prices of other components of the project. It also includes initial cash losses which most of the projects incur in the beginning.

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## 5.4 SOURCES OF FINANCE

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In order to meet the cost of project, the various sources of finance available are as follows:

1. Share capital
2. Term loans
3. Debenture capital
4. Deferred credit
5. Incentive sources or government subsidies
6. Unsecured loans and deposits
7. Lease and hire purchase
8. Miscellaneous sources

These sources of finance are explained in detail in the following section.

### 5.4.1 SHARE CAPITAL

Share capital is divided into two categories: equity capital and preference capital. Equity capital is the contribution of business owners and equity shareholders. They bear the risk of losing their money and also the dividend rate is not fixed. The preference capital is raised through preference shares and generally the dividend is fixed.

### 5.4.2 DEBENTURE CAPITAL

Debentures are the financial instruments which are used to generate the debt capital. They are of two types: Convertible debentures and non-convertible debentures. The convertible debentures are partly or wholly convertible into equity shares as per the pre mentioned time and price. The non-convertible debentures are the debt instruments which have a maturity period varying from five to nine years and have a fixed rate of interest.

### 5.4.3 TERM LOANS

Term loans are the major source of financing to a new project. They are also an important source of finance for the expansion of the existing projects. They are the secured loans provided by financial institutions and commercial banks. The two most common types of term loans prevalent in India are rupee term loans and foreign currency term loans. For financing land, building, civil works, indigenous plant and machinery, etc. the rupee term loan is availed. To meet the foreign currency expenses that will incur in importing the machinery, equipments, technical know-how, consultation, training etc. the foreign currency term loan is availed.

### 5.4.4 DEFERRED CREDIT

By furnishing bank guarantee or mortgaging some assets, deferred credit can be availed. In this the supplier of the plant and machinery provides a differed payment facility which means the buyer can pay after certain stipulated time for the plant and machinery he has purchased from the supplier.

### **5.4.5 INCENTIVE SOURCES OR GOVERNMENT SUBSIDIES**

In certain locations, to increase the economic activity and for the welfare of the people there, the government sometimes provides financial assistance in terms of incentive to promote the setting up of industrial units. These incentives may be in the form of subsidy, seed capital at very low interest rate, tax exemptions, etc.

### **5.4.6 LEASING AND HIRE PURCHASE**

In lease financing, the lessor (owner of the asset) gives right to use the asset to the lessee (user) for a specified period in return of lease rental. This type of financing is very popular for heavy and large machinery, ships, airplanes, etc. In hire purchase, the user gets the asset by paying an initial deposit and pays the remaining money along with interest over a period of time. At the end of the term and after all the payments are done, the user gets the ownership right to the asset.

### **5.4.7 MISCELLANEOUS SOURCES**

Miscellaneous sources of finance include unsecured deposits and public deposits. Unsecured loans are the loans taken by the promoters of the business from family and relatives without any collateral. The lenders may or may not get interest on their lending amount. Public deposits are the deposits taken from general public for a minimum period of six months and maximum period of 36 months.

In this section you have studied about the various sources of project finance. Now the question is how to determine which source of finance to choose. It depends on the norms of the regulatory bodies and financial institutions and key business considerations such as cost, control, flexibility and risk. To protect the investors and to impart prudence to project financing decisions, the government, financial institutions and regulatory bodies define certain norms which need to be followed and facilitate the project financing decisions. The cost of debt finance is less than the equity finance because the interest payable on debt is deductible from the taxable income but the dividend to be paid on equity is not deductible.

The second key business consideration is control over the business and operations of the project. So the promoters of the project would prefer that source of project finance which helps them keep maximum control in their hands. Flexibility in terms of reserve borrowing capacity is very important to raise capital in future if need arises. Risk is the most important key business consideration in choosing the means of finance. Financial risk is the financial leverage. So if the financial risk is low, the project can sustain the demand and price fluctuations.



### Check Your Progress- A

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**Q1. What is project cost? List the various components of project cost.**

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**Q2. Explain share capital and debenture capital sources of finance.**

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**Q3. Fill in the blanks**

- i. Most of the ..... incur cash losses in the initial years.
- ii. .... expenses are directly related to the project implementation schedule.
- iii. .... helps in scheduling of the various project activities and their cost considerations, any variation in the cost, risks associated with them.
- iv. .... is the contribution of business owners and equity shareholders.

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## 5.5 COST OF PRODUCTION

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Before estimating the cost of production, one needs to understand the production and sales forecasts. For sales revenue estimation, following points need to be considered:

1. In the first year of operation, the capacity utilization should be kept 40-50 % of the installed capacity due to the constraints like raw material shortage, limited power, marketing problems, etc. So, it is advisable to keep capacity utilization low in the first year. In the second year it can be increased to 50-80 % and third year onwards up to 90 % or more.
2. In the initial years the sales would be equal to production, so it is not required to adjust the finished stock of goods.
3. The selling price shall include the dealer's commission but not GST.

Following table shows the details to be furnished estimating the sales and production:

	Product			
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr	3 <sup>rd</sup> yr	4 <sup>th</sup> yr
Installed capacity				
Number of working days				
Number of shifts				
Estimated production per day				
Annual estimated production				
Estimated output as % of plant capacity				
Sales of after adjusting stocks				
Value of sales				

Production and sales are closely interrelated therefore they can be estimated together. Once the Production and sales are estimated, the estimation of cost of production becomes easy. The various techniques of project cost estimation have already been explained in the previous unit. So in this unit, the main components of project cost will be described.

The cost of production is the cost of all the goods and services used as inputs in the production of final goods and it mainly includes material cost, labour cost, utilities cost and factory overhead cost. We will discuss these one by one.

1. **Material cost:** It consists of the cost of all the raw material required for production, components of machinery, chemicals and consumable stores which are used in production. It is the most important component of the cost of production. The cost of raw material will include freight and insurance along with its price.
2. **Utilities cost:** Cost of utilities such as fuel, water, and power is included in the cost of production. Cost of power is based on the tariff specified by the concerned electricity boards. Cost of water is the cost of water utilized for boilers and all the operations in production and is payable water supply department. Cost of fuel includes cost of oil, firewood, coal, gas etc.
3. **Labour Cost:** All the wages and remuneration paid to all the employees comes under labour cost. On the basis of the prevailing rates in the industry, wages are estimated. Labour cost depends on the number of employees hired and the rate of remuneration paid to them. The remuneration includes daily wages, basic pay, house rent allowance, dearness allowance, leave travel concession, gratuity, provident fund, medical reimbursement, conveyance allowance, bonus, overtime, etc.
4. **Factory Overheads:** All the expenditure done on rent, taxes, insurance, repairs and maintenance, etc. come under factory overheads. The repair and maintenance

expenses are directly related to the age of the machinery. The new machinery will not require much repairs and maintenance, but the old machinery will need lot of repairs and maintenance. Therefore as per the age of machinery, provision of repairs and maintenance expenses should be made. Also there should be some provision for miscellaneous factor expenses under factory overhead cost.

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## 5.6 WORKING CAPITAL REQUIREMENT

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Working capital is the capital which is required for short-term financing of the operations of the project such as raw materials, importing or local purchasing of components, debtors, stock of goods-in-progress, stocks of finished goods, consumable stores and operating expenses. Commercial banks, trade credit, accruals and provisions and long-term sources of financing are some of the main sources of working capital finance. Commercial banks provide working capital advances up to their specified aggregate permissible lending limits and against those current assets for which a certain amount of margin money is provided. For calculating the maximum permissible amount for working capital, commercial banks use second method suggested by the Tandon Committee.

As per this method, the borrower has to arrange 25 % of the Total Current Assets (TCA) as margin. Maximum Permissible Bank Finance (MPBF) calculation is explained with the help of following example.

Firm ABC has TCA Rs. 100 and Other Current Liabilities (OCL) i.e. without working capital facilities for the banks Rs. 20. Using the second method, MPBF can be calculated as follows:

$$\text{Working Capital Gap (WCG)} = \text{TCA} - \text{OCL} = 100 - 20 = 80 \text{ -----(1)}$$

$$\text{Margin} = 25\% \text{ of TCA} = 100 \times 25 \div 100 = 25 \text{ -----(2)}$$

$$\text{Therefore, MPBF} = (1) - (2) = 80 - 25 = 55.$$

This means that the maximum permissible bank finance is Rs 55.

The margin requirement for working capital finance against the current asset is not fixed but varies as per the type of current assets. The margin range for different types of current assets is given below.

Raw Materials	10-20 %
Stock-in-progress	20-40 %
Finished goods	30-50 %
Debtors	30-50 %

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## 5.7 ESTIMATION OF PROFITABILITY

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Till now we have studied cost of production, sales and production estimates. Using these estimates, we can prepare the profitability projections which are also referred as estimates of working results. The estimates of working results are prepared as given below:

- A. Cost of production
- B. Total administrative expenses
- C. Total sales expenses
- D. Royalty and know how expenses
- E. Total cost of production = (A + B + C + D)
- F. Expected sales
- G. Gross profit before interest = (F – E)
- H. Total financial expenses
- I. Depreciation
- J. Operating Profit = (G – H – I)
- K. Other income
- L. Preliminary expenses written off
- M. Profit/loss before taxation = (J + K – L)
- N. Provision for taxation
- O. Profit after tax (M – N)
- Less Dividend on
  - Preference capital
  - Equity capital
- P. Retained profit
- Q. Net cash accrual (P + I + L)

**1. Cost of Production:** It is the cost of materials, labour, utilities, and factory overheads as studied in the previous section.

**2. Total Administrative Expenses:** These include salaries of administrative staff, remuneration to directors, professional fees, electricity bill, telephone bill, postage, office supplies (stationery, printing, etc.), insurance and taxes on office property and miscellaneous items.

**3. Total Sales Expenses:** These expenses include salary of sales staff, commission payable to dealers, packing and forwarding charges, marketing expenses such as sales promotion and

advertising expenses and other miscellaneous expenses. These expenses vary as per the type of industry and the competition that prevails in that industry. They can be estimated from the similar firms in the industry.

**4. Royalty and Know how expenses:** The royalty rate is usually 25 per cent of sales and it is often payable for a limited number of years.

**5. Total Cost of Production:** It is the sum of cost of production, total sales expenses , administrative expenses and royalty and know how expenses.

**6. Expected Sales:** It can be calculated from the estimates of sales and production prepared we have already studied in the previous section.

**7. Gross Profit before Interest:** It is the difference between expected sales and total cost of production.

**8. Total Financial Expenses:** These include interest on term loans and bank borrowings, commitment charges on term loans and commission for bank guarantees.

**9. Depreciation:** In all the projects, especially in capital intensive projects, depreciation consideration is very important. The rate of depreciation varies as per the type of assets. For calculating depreciation for tax purposes, the Written Down Value method (WDV) is used and for company law purposes, both the Written Down Value method and the Straight Line (SL) method are used.

**10. Operating Profit:** It is gross profit before interest less total financial expenses less depreciation.

**11. Other Income:** Income arising from transactions which are not part of the normal operations of the firm is shown under other income. Eg. sale of scrap.

**12. Write-off of preliminary expenses:** Preliminary expenses up to 2.5 % of the cost of project or capital employed, whichever is higher, can be paid off in ten equal annual installments.

**13. Provision for Taxation:** Various incentives, subsidies and concessions have to be considered for calculating the taxable income. As per the latest Income Tax act and the income tax slabs, the tax is calculated.

**14. Profit after Taxation:** This is profit/loss before taxation minus provision for taxation. A part of profit after tax is usually paid out as dividend on preference capital and equity capital.

**15. Retained Profit:** After paying the dividend, the remaining profit after tax is called retained profit or ploughed back earnings.

**16. Net Cash Accruals:** The net cash accrual from operations is equal to: retained profit + depreciation + write off of preliminary expenses + other non-cash charges.

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## 5.8 PROJECT VALUATION AND CASH FLOW ANALYSIS

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When an entrepreneur promotes any project, the reason behind his investment is to earn good returns. For projects which are sponsored by government, financial returns may not be the criterion for evaluation as they consider social cost benefits, but for the private projects, the main reason for promotion and investment is attractive returns on the investment. If there are many projects and all of them appear to have good profit earning capacity, then which will be better and give maximum return to the investor? The investor will have to do the comparative study or financial analysis of the returns of all the alternatives (projects) before investing in any one. This is known as project valuation or cash estimation. The project valuation is done using the following two techniques:

- Discounted cash flow techniques and
- Non-discounted cash flow techniques.

You have already studied about these methods in ‘Financial Management’ in detail. So in this unit a quick recap is given.

### 5.8.1 DISCOUNTED CASH FLOW TECHNIQUES

As the name suggests, in this method of project valuation, the future cash flows are discounted by a rate that accounts for the inflation i.e. time value of money and the opportunity cost. Time value of money you have already studied in previous semester. There are four methods of investment evaluation using discounted cash flow techniques. They are as follows:

1. Net Present Value (NPV) method
2. Internal Rate of Return (IRR) method
3. Profitability Index (PI) method and
4. Benefit Cost Ratio (BCR) method

#### 1. Net Present Value (NPV) method:

This method takes into account the time value of money i.e. the present value of all the expected cash flows in future.

NPV of cash flows = Present value of all future cash flows over the life of project – Present value of cash out flows

$$NPV = CF_1 / (1+r)^1 + CF_2 / (1+r)^2 + CF_3 / (1+r)^3 + \dots + CF_n / (1+r)^n$$

Where  $CF_1, CF_2, \dots$  are the future cash inflows at the end of the first year, second year and so on.

$n$  = life of project in years.

$r$  = discount rate

**NPV = 0** indicates that present cash outflows and the present value of future cash inflows are equal.

**NPV < 1**, present value of future cash inflows is less than the present cash out flows. The project should be rejected.

If  $NPV > 1$ , the present value of future cash inflows is more than the present cash out flows. That means the project has positive rate of return and should be considered for investment.

## 2. Internal rate of Return (IRR) method:

The internal rate of return of a project is the discount rate that makes the NPV equal to zero i.e. the present value of cash out flows and the present value of the cash inflows become equal.

$$NPV = CF_0 + CF_1 / (1+IRR)^1 + CF_2 / (1+IRR)^2 + CF_3 / (1+IRR)^3 + \dots + CF_n / (1+IRR)^n$$

$CF_0$  - Initial investment

$CF_1, CF_2, \dots, CF_n$  are cash inflows

IRR – Internal Rate of return

n – year and

NPV – Net Present Value.

In this method, discount rate is assumed and the NPV is calculated. Then the NPV is set equal to zero and internal rate of return is calculated.

## 3. Profitability Index (PI) method:

This is another method of project valuation technique. It is also known as profit investment ratio. In this method, an investor can quantify the amount of value per unit investment.

It is calculated by dividing the present value of the future cash inflows by the initial investment in the project. Project with higher profitability index will give attractive returns on the investment in the project.

Profitability Index = Present Value of Future Cash Inflows  $\div$  Initial Investment in the Project.

## 4. Benefit Cost Ratio (BCR) method:

This method is used in cost benefit analysis. It compares the present value of all benefits i.e. present value of all the future cash inflows with that of the cost and investments of a project or investment.

If  $BCR < 1$ , Investment will not be profitable i.e. it will generate losses.

For  $BCR = 1$ , Investment option will neither make loss nor be profitable.

If  $BCR > 1$ , the investment option is profitable.

### 5.8.2 Non-discounted Cash Flow Techniques

The two methods used for project valuation are Pay Back Period (PBP) method and Accounting Rate of Return (ARR) method.

**1. Pay Back Period (PBP) method:**

This method is one of the simplest methods of investment or project evaluation. Payback period is the time required to recover the original investment on the project i.e. number of years it takes to recover the initial investment.

**2. Accounting Rate of Return (ARR) method:**

It is also referred as Average Rate of Return method.

$ARR = \text{Profit after Tax} / \text{Book Value of Investment}$

Profit after Tax is the average annual cash inflow after tax over the life of the project.

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## 5.9 PROJECTED CASH FLOW STATEMENT

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Cash flow statement shows the cash inflows and outflows of the firm and how they impact the cash balance of the firm. A projected cash flow statement is the listing of cash inflows and outflows for an upcoming period, usually a year. It is used to evaluate the cash inflows and outflows to determine when, how much and for how long cash deficits or surpluses will exist for a business during an upcoming time period usually a year. Only cash items are included in the cash flow statements. Based on the data from the projected cash flow statements, if it shows cash surplus then plans and schedules for loan repayment and short-term investments can be made. If it shows cash deficit then it can justify loan requirement. Therefore, it is very helpful in project evaluation, financial planning and funds control. One simple projected cash flow format is given here.

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### Cash Flow Statement

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#### Sources of Funds

1. Share Capital
2. Profits before taxation and interest
3. Depreciation provision for the year
4. Development rebate reserve
5. Increase in secured medium and long term borrowings for the project
6. Other medium/long term loans
7. Increase in unsecured loans and deposits
8. Increase in bank borrowings for working capital
9. Increase in liabilities for deferred payment (including interest) to machinery suppliers
10. Sale of fixed assets

11. Sale of investments
12. Other income (indicate detail)

**Total (A)**

**Disposition of Funds**

1. Capital expenditure for the project
2. Other normal capital expenditure
3. Increase in working capital (Current assets other than cash – Current liabilities other than bank borrowings)
4. Decrease in secured medium and long-term borrowings
  - All India Institutions
  - SFCs
  - Banks
5. Decrease in unsecured loans and deposits
6. Decrease in bank borrowings for working capital
7. Decrease in liabilities for deferred payments (including interest) to machinery suppliers
8. Increase in investments in other companies
9. Interest on term loans
10. Interest on bank borrowings for working capital
11. Taxation
12. Dividends
  - Equity
  - Preference
13. Other expenditure (indicate details)

**Total (B)**

- Opening balance of cash in hand and at bank
- Net surplus/deficit (A-B)
- Closing balance of cash in hand and at bank

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Source: Projects-Planning Analysis, Selection, Financing, Implementation and Review by Prasanna Chandra, 9<sup>th</sup> Edition, 2019.

**Projected Balance Sheet:**

The balance sheet reflects the financial state of a firm at a given point of time. The Projected balance sheet exhibits the expected changes in future asset investments, equity financing and outstanding liabilities. It helps in long-term strategic financial planning. The format of balance sheet as prescribed in the Companies act is given below:

**Balance Sheet Format**

<b>Liabilities</b>	<b>Assets</b>
Share Capital	Fixed Assets
Reserve and Surplus	Investments
Secured Loans	Current Assets, Loans and Advances
Unsecured Loans	Miscellaneous Expenditure and Losses
Current Liabilities and provisions	

Liabilities side shows the various sources of finance used in project such as share capital which is equity and preference share capital, reserves and surplus i.e. accumulated retained earnings of a company, secured loans, unsecured loans and current liabilities and provisions. The accumulated retained earnings like debentures redemption, dividend realisation and general reserves. Secured loans such as debentures, term loans from commercial banks and financial institutions are the loans against which security has been provided. Unsecured loans such as unsecured loans from the promoters, relatives and family, fixed deposits from public are the loans against which no security is provided. Current liabilities are short-term obligation and include payables from raw material and supplies used in production, wages, salaries, rents, etc. Provisions represent the provision for pension, gratuity, taxes, dividends, etc.

The funds utilized in the business are shown on the assets side of the balance sheet. They include fixed assets such as plant and machinery and all the other resources which are used in the production of goods and services and are shown at their original purchased price minus depreciation. Investments represent the financial securities that the business owns. Current assets, loans and advances include cash, inventories, debtors, loans and advances made by the firm.



### Check Your Progress- B

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**Q1. Explain discounted cash flow technique of project valuation.**

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**Q2. Describe cost of production.**

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## 5.10 SUMMARY

Project finance is the financing of the long-term, capital intensive infrastructure for public utilities and industrial projects with the help of limited or no recourse loans where the capital and interest is repaid from the cash flows generated by the project. The cost of the project depends on (1) Land and building, (2) Plant and machinery, (3) Technical consultation and training, (4) Fixed assets other than plant and machinery, (5) Preliminary Expenses, (6) Expenses incurred in raising capital, (7) Pre-operative expenses, (8) Margin money for working capital and (9) Miscellaneous expenses and contingency fund.

The cost of production is the cost of all the goods and services used as inputs in the production of final goods and it mainly includes material cost, labour cost, utilities cost and factory overhead cost.

From the definition you can understand that a project needs lot of finance. The various means or sources of finance are: Share capital, term loans, debenture capital, deferred credit, incentive sources or government subsidies, unsecured loans and deposits, lease and hire purchase and miscellaneous sources.

Working capital is the capital which is required for short-term financing of the operations of the project such as raw materials, importing or local purchasing of components, debtors, stock of goods-in-progress, stocks of finished goods, consumable stores and operating expenses. Commercial banks, trade credit, accruals and provisions and long-term sources of financing are some of the main sources of working capital finance.

Valuation of the project for profitability is done using non-discounted cash flow techniques and discounted cash flow techniques. For non-discounted cash flow financial analysis Net Present Value (NPV) method, Internal Rate of Return (IRR) method, Profitability Index (PI) method and Benefit Cost Ratio (BCR) method are used. For discounted cash flow analysis Pay Back Period (PBP) method and Accounting Rate of Return method is used.

Based on the data from the projected cash flow statements, if it shows cash surplus then plans and schedules for loan repayment and short-term investments can be made. If it shows cash deficit then it can justify loan requirement. Therefore, it is very helpful in project evaluation, financial planning and funds control. The balance sheet reflects the financial state of a firm at a given point of time. The Projected balance sheet exhibits the expected changes in future asset investments, equity financing and outstanding liabilities. It helps in long-term strategic financial planning.



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## 5.11 GLOSSARY

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**Project Finance:** Project finance is the financing of the long-term, capital intensive infrastructure for public utilities and industrial projects with the help of limited or no recourse loans where the capital and interest is repaid from the cash flows generated by the project.

**Debentures:** Debentures are the financial instruments which are used to generate the debt capital

**Deferred Credit :** In this the supplier of the plant and machinery provides a differed payment facility which means the buyer can pay after certain stipulated time for the plant and machinery he has purchased from the supplier.

**Lease Financing:** In lease financing, the lessor (owner of the asset) gives right to use the asset to the lessee (user) for a specified period in return of lease rental.

**Cost of Production:** The cost of production is the cost of all the goods and services used as inputs in the production of final goods and it mainly includes material cost, labour cost, utilities cost and factory overhead cost.

**Working Capital:** Working capital is the capital which is required for short-term financing of the operations of the project such as raw materials, importing or local purchasing of components, debtors, stock of goods-in-progress, stocks of finished goods, consumable stores and operating expenses.

**Cash Flow Statement:** Cash flow statement shows the cash inflows and outflows of the firm and how they impact the cash balance of the firm for an upcoming period, usually a year.

**Balance Sheet:** The balance sheet reflects the financial state of a firm at a given point of time.

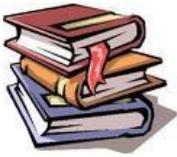


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## 5.13 SUGGESTED READINGS

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## 5.14 TERMINAL QUESTIONS

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- Q1. What are components of cost of project cost? Explain each one in detail.
- Q2. Explain the various means of project finance.
- Q3. Describe in detail the main components of cost of production.
- Q4. Describe main components of cash flow statement.
- Q5. Explain working capital requirement and how maximum permissible bank finance limit is calculated.
- Q6. What points are required to be considered for sales revenue estimation?
- Q7. On what basis the means of finance are selected for a project

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## UNIT 6 PROJECT FEASIBILITY STUDIES

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### 6.1 Introduction

### 6.2 Objectives

### 6.3 Project feasibility studies

### 6.4 Summary

### 6.5 Glossary

### 6.6 Answer to check your progress/Possible Answers to SAQ

### 6.7 References

### 6.8 Suggested Readings

### 6.9 Terminal and Model Questions

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## 6.1 INTRODUCTION

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In the previous unit you have understood the valuation of the project and projects cash flows. By now you would be able to understand the specific need of such huge projects. Projects can be funded by public venture, private organization or by both through Public Private Partnership. They need to raise huge amounts of capital and try to predict the future to ensure stability. These funds are generally raised through building a financial structure including debt, equity or both and credit enhancement. In project financing as per the life stage of the project, the credit rates also changes. To make them more appropriate and relevant the need of the cash flow forecasts for the projects are needed. The credit facilities are clubbed with the equity funding by the project sponsors. This makes them effectively cover all the costs while considering all the risk and working capital funds requirements.

As the project is supposed and proceed as predicted but generally, they are based on secondary data and the available internal information. The estimates are generally predicted based on the experience of the respective teams. This becomes the base on which the projects costs and cash flows are predicted. But they have to pass through the viability test to full proof the results in future as the period of engagement of funds is long and irreversible. Due to nature of the Project finance funds are needed to be blocked with a long term perspective. But before its execution they have to pass the feasibility test to get approval of the management or the board.

In this unit we will try to understand the concept and importance of market and technical feasibility. We will also learn to use the techniques for the market, technical and financial feasibility.

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## 6.2 OBJECTIVES

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After reading this you would be able to understand:

- Importance and Scope of project feasibility studies.
- Types of different feasibilities and forecasting based on them.
- The importance of demand forecasting techniques.

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## 6.3 PROJECT FEASIBILITY STUDIES

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In most of the project finance cases, the process of financing for a project starts with the identification of the prospective projects. Out of these prospective projects ranking is to be done based on analysis on different parameters. Only the most suitable project will be considered to allocate funds and execution of project will follow that. Most of the projects generally go through the market feasibility, technical feasibility and financial feasibility. But in case of government funded projects two other aspects are added to it i.e., economic and social feasibility. These two aspects are to be considered in addition to environmental feasibility. Surveys in this manner are done by the respective feasibility group who study the various aspects of the project. They study marketing aspect, technical aspect and financial aspect involving long term funding for the project. Through these surveys they collect information and propose a concrete proposal. These proposals help the decision maker to finalize it based on the sufficient information available with the proposal.

The points of concern for these proposals are:

- a) Commercial aspect: with the commercial viability of a project manager tries to ensure the cash flow from the activities at the level of the project. For example: generally, roads are constructed on Public Private Partnership (PPP) Concept, here the party operating the road needs to ensure that there is good traffic on the road, so that they can collect the toll and try to get profitable at the earliest.
- b) Economic aspect: this involves the availability of resources man, machine, material and money. It should be in line with the commercial aspect of the project so that they can get the proposed profits while ensuring the demand. Volumes can help in ensuring the profits and govern the variables like sales, purchases, expenses etc.
- c) Financial aspect: all of the resources are to be purchased or they need to be paid from the financial resources available with the project. For this, the proposal should

consider the elements related to financials like cost of capital, sources of funds, projection of sales, production, cost of production, budgeting, working capital management, break even point, projected cash flows and the projected financial statements. Budgeting helps in comparing the projected and actual performance at the project level.

- d) **Technical aspect:** of the project helps in ensuring the availability of the technical support for the project. Technical aspects of the project help a business entity to judge its capability or seek support of outsourcing through consultancy. It tries to smooth functioning of the project in future. For this the team has to ensure availability of land dedicated to the project, availability of resources like water and electricity, transportation, communication, human resources and support needed to make them effectively work like food, lodging, transportation on and off site etc., technical support to the project during the shutdown period for repair, ensuring availability of raw material as per demand and phase of the project.
- e) **Social aspect:** it basically covers the social issues and the social cost associated with the execution of the project. The project cost can't be considered in isolation it's always accompanied with the economic returns that it will yield in future. As for all the projects it's the society that serves as the customer as well as the supplier or provider of factors input. For such aspects we conduct the social- cost benefit analysis where we identify and quantify the costs-benefits associated with the project.
- f) **Management vision and mission:** this is the dynamism of the management that decides the future of the project. Project of this nature takes long time to get implemented and executed. So it's the foresightedness of the management to explore the risk factors involved with the projects and make them successful in spite of any hurdle of future. This is the qualities of the management that can make an ordinary project successful with its inputs and action on time.

### **6.3.1 IMPORTANCE AND SCOPE**

Project life cycle is spread over a period of time it includes the availability of site for the project, type of project, technology to be used, volume of the project, scope and speed of the execution of the project. For this it needs to consider the commercial, economic, financial, technical and social and management's aspect.

Due to the following reasons the importance and scope of the project financing can be understood better:

- a) **Growth-**The effect of the investment decision never works in isolation. It always impacts the present as well as the future. As it is of long term in nature, so the consequences of the current expenditure can influence the direction of the whole organization in future. One successful project may attract other bigger projects in

future and vice versa the bad project will hamper the image of the sponsors and will divert them from the opportunities in future.

- b) Risk- Underestimating of risk can be costly for the sponsors. As for them it's the scarce resource which needs to be deployed judiciously while ensuring returns of the future. Returns of one project may supplement the other projects in future and may help in reducing their riskiness. As funds work in a systematic chain method, one result is linked with the starting or stage of the project.
- c) Funding- Source of funds are scarce for the sponsor because every project has an opportunity cost. This cost is the cost of return that can be earned from the next best alternative which was not selected due to selection of this project proposal and the returns associated with this. These sources of funds need commitment to ensure returns in future either interest or dividend.
- d) Irreversibility; execution of the project takes place after going through the various feasibility reports and time commitment. Later the commitment of funds and other resources are made for the long life of the project. It's tough for the executing party to irreversibly make each thing normal as was previously. Irreversibility or cancellation for that subject of the project is very costly for the sponsors of the project.
- e) Complexity: Long term commitments of funds are the most difficult decision of the sponsors. They are considered after proper assessment of alternatives and selection of the most excellent for the future of stakeholders. Predicting for future based on the available historical information makes the feasibility report so important for the decision makers.
- f) Scope of the project is defined by the analysis of commercial aspect of the project, capacity of plant, availability of technology, support system for the equipments and civil works, condition at site for the workers, availability and supply of raw material for the production. The detailed reports are considered in feasibility reports and helps in estimating the cost of production and future cash flows to reach break-even point and generating profit afterwards.

### **6.3.2 MARKET FEASIBILITY**

Products with customer centric approach and having demand in the market are always profitable as an investment alternative. Though factors affecting demand may differ from one place to the other, geographical location to location, but the basic nature of the product may remain the same. For example a refrigerator is need of the day, but its demand may vary from north to south, east to west based on the climatic conditions, but the purpose those refrigerators serve will remain the same.

The market feasibility study tries to access the potential demand in the market and the projections based on the conducted survey. Based on these surveys the sponsors can understand the demand of the market and the competition present in the market.

As demand in the market are different so are the products. It's the choice of the sponsor that it wishes to fulfill the demand of the section of the market through its project. For example in case of refrigerators it's the size of the room, price of the refrigerators, running cost of refrigerators, brand loyalty of the customer, after sales service by the company and many other reasons affect its demand.

For production of a product like this or a new or unique product the decision maker has to get the information collected and analysed before reaching to a final conclusion. This is also known as market analysis. For the existing products of same nature, the past performance of the competitors can be studied and predictions can be based on the available historical information. But for a new product the predictions can be based on substitute products or other products that may replace this new product. Example could be the launch of personal telephone handset, before that it was the fixed landlines that were available but with the different features. So, these phones have to introduce better ring tones, better screens and features like mobility to get the customer shift from the landline to their mobile handsets.

So at that juncture if a company wished to launch mobile handsets for competing with the fixed landline phones it had considered various aspects like economic and financial conditions of the customers before production and pricing of the product.

Before engaging funds for long term, the decision maker has to go through market analysis. This can be done through historical data analysis and analysis of factors affecting the demand and supply of the product in the market. Broadly we can divide these into:

- a) Economic factors and indicators
- b) Demand projections
- c) Supply estimates
- d) Demand supply gaps
- e) Critical success factors
- f) Situation analysis

- a) Economic factors and indicators: there is a huge difference between the want and demand of the product. An individual wants many things as well as lavish things in life, but it's his paying capacity that makes or stops him from buying a product. So we can say that wants and needs are to be supported by the purchasing power to get the demand executed at the ground level. In this case the purchasing power and demand can be judged by the economic indicators like inflation, gross domestic product (GDP), per capita income, population, literacy, income, income disparity,

urbanization, money supply, currency exchange rates, government spending, tax rates etc.

- b) Demand Projections: with the seasonal products like Air conditioners, fans, coolers etc which are bought generally more at the starting of the summers or during the summers. For the suppliers of the products it's very important to be specific about the demand and products availability to meet these demands.

Question may arise how a supplier will decide about the demand in advance? He can do that by analyzing the factors affecting the demand like; (i) user of the product, (ii) important features of the product, (iii) complementary and substitute products availability in market, (iv) demand based on regional, local and international level, (v) infrastructural support to fulfill the demand ;

- i. User of the product facilitate in decisions regarding demand that will rise in the market. For example if we consider the case of soaps, users of rural market and urban market are very different. So changing their mentality can be a big issue for the marketer to increase the demand. Sometime educating the customer about the characteristic of the product can help in increasing demand.
- ii. Important feature of the product: demand of sandal and coconut based soaps is more in the southern part of India and due to this reason the soap manufacturing and marketing is different than other parts of the country.
- iii. Complementary and substitute products availability in market: Complementary products support in generating the demand of the other product. For example with the growth in Information Technology and Telecommunication it's the new mobile handsets that are getting sold due to the advancement, we can see the movement from 2nd Generation to the 4 th Generation and so forth. While on the substitutes side we had seen the declining sales of fixed landline phones due to the up-gradation in technology and change in customers demand.
- iv. Demand based on regional, local and international level: we had seen India being a hub for the production of many countries. Reasons are demand and availability of raw material at national level and supply to meet the international demands. Many of the pharmaceutical and Research & Development companies are not only fulfilling the needs at local and national level but serving at the International level.
- v. Infrastructural support to fulfil the demand: by infrastructure we mean physical as well as the socio-political support too. With the government's policy in place the businesses can project about the demand of products in future. For example, in case of IT support for ticket booking by Indian Railways through its website. It had made ticket buying easier for the customer and booking all seats for the railways possible. With this kind of infrastructural support railways are able to reduce cost of producing tickets and make booking of seats by mobile phone,

laptops etc makes it convenient for travellers and profitable for railways. Presence of infrastructural support helps in creating and servicing demand better.

- c) Supply estimates: Like demand projection s it is critical to predict the supply. Supply can be understood better based on two aspects
  - i. Accessibility of raw material for the production of the product: Availability of raw material depends on the raw material availability at national level, otherwise it needs to be imported; infrastructural support in the form of ports for ships, airport to dispatch and receive product; roadways to bring raw material for production from ports to production unit; time period to make the availability of products.
  - ii. Supply of finished goods for meeting the demand: Supply of finished goods can be hampered by the existing big companies in the competition. As they can force the government to make policies to hurdle the entry of new foreign company; Non availability of technical experts or area experts, due to these reasons dependency will be on the international markets to provide expertise and technical knowhow; socio-political factors which can disturb the supply to meet the demand.
- d) Demand supply gaps: Investment of funds with long term perspective is also dependent on the gap between the demand and supply of the product. In the presence of such gaps the production of product will be beneficial if it can fill the gap. For example in India the gold is abundantly consumed so the demand is very high. But manual production of gold ornaments is costly and produces less in number. So some of the companies had bridged this gap by molding gold ornaments and producing it in bulks. This way companies were able to produce more with less cost than the traditional way of production. So the long term investments of this nature will fill the demand supply gap and can be profitable for sponsors.  
Demand supply estimates can be multistage based on the complexity of factors affecting them.
- e) Critical success factors: Marketability of product is dependent on various factors like; product features, patents and copyrights, channels of distribution, suppliers and vendors availability, government policy, environment policy, socio-economic conditions, competition, inflation, rate of interest etc.
- f) Situation analysis: it is important as a part of market analysis in project planning. In situation analysis we prepare a framework while preparing a marketing plan. It's an internal factor analysis while keeping external factors in consideration. Internal factors include information about Company's products, company's image and brand loyalty by customers, company's mission and vision, strategic plans and goals, prevailing culture and values, technology and Research and Development (R&D) for patents, financial resources of the company.

External factors including,

- Collaboration's with major businesses as Business to Business (B2B) customers, suppliers, distributions, carrying and forwarding agents, joint ventures, strategic alliances, mergers.
- Clientele factors include profile of clients, size of the market for these products, location of consumers, their taste and preferences, location of markets for these clients, channels of distribution and marketing.
- Challenger or the competitor's analysis helps in producing products better, placing them better, understanding strengths and weakness helps in encashing opportunities and safeguarding against threats from the environment.
- Conditions surrounding the company in which it has to perform effect on the market and demand so factors like economic environment, social system, political stability, regulatory system, macroeconomic factors, technical environment and its rate of change to strategize better to make the investments fruitful for the sponsors.

### 6.3.3 TECHNICAL FEASIBILITY

Companies wishes to remain competitive in the market to gain market share and increase its revenue. In this regard technology supports competitiveness. Technology as products and services has a life cycle which starts in incubation or research centers of the R&D section of the company. This development of the technology and its patenting is a costly affair for the company. Due to this reason they wish to get the maximum out of it by introducing it to the market where this could be competitive. So they launch technological products in undeveloped or under developing markets after saturation at the developed market. So the two aspects which are very important while studying for the technical feasibility are a) Developing right technology at the right time and b) Developing technology for future.

- a) Developing right technology at the right time: It's important for technical feasibility that the technology is commercially viable and exploitable. By commercial we mean it should be able to be produced at mass level to meet the demand and exploitable means it had a life which is not blocked by the presence of other technologies. For example developing basic typewriters for today's market who uses keyboards for printing is not commercial and exploitable option to invest in this technology due to lack of demand in the market for these products.

So the study and search of most appropriate technology must be taken by the project team. Technology should be available and with the existing market feasibility of the alternative technologies. These alternative technologies can be with the existing competitors in the same business or substitute businesses. In this regard the technology can be developed or joint ventures for technological support can be explored. For example space exploration is an area where government had not allowed privatization. So through joint ventures companies can explore the business opportunities.

Developing technology or joint venture will purely depend upon the cost-benefit analysis and labor to capital ratio. For developing economies the labor is cheaper so the older technologies can also work. While this is not feasible for developed countries where the labor cost is more so new technology can substitute the human workforce and save cost for the company. In other words it's the cost of product or service that decides about the use of old or new technology.

Note sometimes developing technology is not feasible for the company due to opportunity in the market and its financial position . In this case the option available is to get the technological rights purchased from the other R&D institution. For example in case of small pharmaceutical company it's better to purchase technology from company who had patented the formula and technology of a drug , then developing new formula.

- b) Developing technology for future: Technological developments help companies to introduce new products and increase its market share. Some of the companies are pioneer in technological developments but for this they have to keep investing and upgrading technology. So before investing they have to analyze the existing stages of technology and the future of the new technology which they could focus on based on financial condition, manpower and other resources. For example in IT sector companies had invested in developing technology to carry data through Compact Discs (CDs) at the time when floppy drives were in the market. But now CDs manufacturing companies have to keep developing new technologies like external drives to remain in the business.

These technological feasibility reports provide inputs to calculate the project costs and the operating cost.



### *Check Your Progress- A*

**Q1. State the importance of project feasibility studies for financing of projects.**

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**Q2. Discuss how the demand can be forecasted?**

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**Q3. MCQs**

- a) Scope of the project is defined by:
- i) the analysis of commercial aspect of the project
  - ii) capacity of plant
  - iii) availability of technology
  - iv) all of the above
- b) Market analysis can be done through
- i) Economic factors and indicators
  - ii) Demand Projections
  - iii) Supply Estimates
  - iv) All of above
- c) Important aspects to analyze the technical feasibility are;
- i) Developing right technology at the right time
  - ii) Developing technology for future
  - iii) (i) and (ii)
  - iv) only (i)

**Q4. Fill in the Blanks with appropriate word or words.**

- a) \_\_\_\_\_ study tries to access the potential demand in the market and the projections based on the conducted survey.
- b) Technological feasibility reports provide inputs to calculate the \_\_\_\_\_ and \_\_\_\_\_.
- c) Developing technology or joint venture will purely depend upon the \_\_\_\_\_ and \_\_\_\_\_.

### 6.3.4 FINANCIAL FEASIBILITY

To calculate the final cost of the product the sponsors need to see the financial feasibility report. This report should provide details related to the financial aspects associated with the project. These reports should be able to generate projected financial statements i.e., Balance Sheet, Profit and Loss Statement and Cash Flow Statements. These are estimated for future based on the actual data of comparable projects or the standard norms set for such projects. While the period for such estimations are accepted due to the products life cycle, business cycle, capital structure of debt and equity, economic factors etc.

Analyzing cost of debt and equity help s the business to develop the most appropriate capital structure. These financing options are to be considered for income generation and repayment of funds. For this repayment and other important issues schedules are created like:

- Repayment of debt this includes payment of interest and principal
- Short term funds schedule
- Working capital schedule
- Repayment of working capital schedule
- Depreciation schedule as per the Companies Act, 1956
- Schedule of cash flow from operations
- Projections for cash flows

The discounted and non-discounted techniques help in the selection of the most appropriate project from the available options. The Discounted Cash Flow (DCF) techniques include the time value of money. So the cash inflow and outflow are multiplied with the time value of money factor. In other words it's to considers the decrease in the purchasing power of the currency due to rise in inflation rates. While the Non Discounted Cash Flow (NDCF) gives better ranking to those projects who repays the invested money at the earliest. Example 6.1 is solved below to grasp the concept better.

The most accepted and understood concept in DCF is the Net Present Value (NPV).

This is a cash flow-based method of projects evaluation for investment. It considers all the cash inflows (outflows and inflows), and multiply them with the time value discount rate to reach the real amount of cash flow. If the outflows are less than the inflows than it is said to be a positive NPV and it is expected to generate value for the investors. Projects with positive NPV are accepted and with negative NPV the project are rejected.

Formula for NPV;

$$\text{NPV} = \text{Cash outflow } C_0 - \text{cash inflow } C_1/(1+r)^1 + \text{cash inflow } C_2/(1+r)^2 \dots \dots \text{cash inflow } C_n/(1+r)^n$$

While the other DCF method is Internal Rate of Return (IRR), this is the rate at which the difference of value of cash outflow and inflow is zero. This method gives more weightage to the projects whose discount rate is less than the internal rate of return.

**Cash outflow  $C_0 = \text{Cash inflow } C_1/(1+r)^1 + \text{Cash inflow } C_2/(1+r)^2 + \dots + \text{Cash inflow } C_n/(1+r)^n$**

The NDCF methods for selecting projects consider Payback Period method as one of the most appropriate method for such selection. It considers projects with quicker repayment period better than the projects with later repayment period. It considers the cash flows outflow and inflows to calculate the payback period. It divides the cash outflows with the cash inflows to reach to such periods.

Example 6.1 Rohit Traders are considering two projects, A and B for investing, the required rate of return is 12% and the cash flows are given below

	Year 0	Year 1	Year 2	Year 3	Year 4
Project A	(18000)	6500	6000	6000	5500
Project B	(18000)	6600	8000	6000	5000

### NPV calculation

$$\text{NPV for Project A} = -18000 + (6500/(1+r)^1) + (6000/(1+r)^2) + (6000/(1+r)^3) + (5500/(1+r)^4)$$

$$\text{NPV for Project B} = -18000 + (6600/(1+r)^1) + (7000/(1+r)^2) + (6000/(1+r)^3) + (5000/(1+r)^4)$$

Given value of r is 12% so on putting this we get;

$$\text{NPV for Project A} = -18000 + (6500/(1.12)^1) + (6000/(1.12)^2) + (6000/(1.12)^3) + (5500/(1.12)^4) = -18000 + 7280 + 7526 + 8430 + 8654 = -18000 + 31890 = \mathbf{13890.32}$$

$$\text{NPV for Project B} = -18000 + (6600/(1.12)^1) + (8000/(1.12)^2) + (6000/(1.12)^3) + (5000/(1.12)^4) = -18000 + 7280 + 10035 + 8430 + 7868 = \mathbf{15724.36}$$

NPV ranks Project B better than the Project A due to the more positive cash flow.

### IRR Calculation

IRR for Project A

Cash outflow  $C_0 = \text{Cash inflow } C_1/(1+r)^1 + \text{Cash inflow } C_2/(1+r)^2 + \dots + \text{Cash inflow } C_n/(1+r)^n$

$$18000 = 6500/(1+r)^1 + 6000/(1+r)^2 + 6000/(1+r)^3 + 6000/(1+r)^4$$

On using hit and trial method we can calculate the IRR, for project A its 13%

IRR for Project B

$$18000 = 6600/(1+r)^1 + 8000/(1+r)^2 + 6000/(1+r)^3 + 5000/(1+r)^4$$

On using hit and trial method we can calculate the IRR, for project A its 17%

NPV ranks Project B better than the Project A due to the higher rate of return.

### Pay Back Period (PBP) Calculation

PBP for Project A

Rs. 12500 can be recovered in 2 Years while remaining Rs. 5500 can be recovered in 11 months (5500/6000). So recovery of total investment will be recovered in 2 years and 11 months

PBP for Project B

Rs. 14600 can be recovered in 2 Years while remaining Rs. 3400 can be recovered in 07 months (3400/6000). So recovery of total investment will be recovered in 2 years and 7 months.

PBP ranks Project B better than the Project A due to the early recovery of initial investment of Rs. 18000 as cash outflow.



### *Check Your Progress- B*

**Q1. How does the analysis of cost of debt and equity help?**

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**Q2. Discuss the DCF and NDCF techniques for financial analysis of projects.**

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**Q3. MCQs**

- a) Financial feasibility reports should be able to generate;
- i) Projected Balance Sheet
  - ii) Projected Profit & Loss Statement
  - iii) Cash Flow Statements
  - iv) All of the above
- b) Financial estimations are accepted due to;
- i) The products life cycle
  - ii) Business Cycle
  - iii) Capital structure of debt and equity
  - iv) All of the above
- c) Which of the following are the Discounted Cash Flow Techniques?
- i) Net Present Value Method
  - ii) Internal Rate of Return
  - iii) Pay Back Period
  - iv) only (i) and (ii)

**Q4. Fill in the Blanks with appropriate word or words.**

- a) Cost of debt and equity helps the business to develop the most appropriate \_\_\_\_\_.
- b) \_\_\_\_\_ techniques deem the time value of money.
- c) DCF stands for \_\_\_\_\_
- d) NDCF stand for \_\_\_\_\_
- e) Payback period is a \_\_\_\_\_ technique

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**6.4 SUMMARY**

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First step in project development stage is to assess the project. By the commercial viability of the project, it is tried to see the worth of the project in future. Feasibility study we consider in the marketing aspect, technical aspect and the financial aspect of the project to reach to the

conclusion. The conclusions are based on the feasibility reports submitted by respective teams. Based on the historical data and trend analysis the marketing feasibility reports identifies the gap between the existing demand and supply of the product.

Technical feasibility reports emphasize on the technical aspects of the production, available technology, training and expertise. By this through the production company can be able to supply the demand as projected by the marketing feasibility report.

The financial feasibility report considers the cost of capital

structure, sources of funds and the estimation of the project's costs and operating cost of future to predict the cash flows (outflows and inflows). For this the DCF and NDCF techniques are used as suggest for acceptability of the projects based on ranking .



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## 6.5 GLOSSARY

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**DCF-** Discounted Cash Flow

**GDP-** Gross Domestic Product

**NDCF-**Non Discounted Cash Flow

**PPP -** Public Private Partnership



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## 6.6 ANSWERS TO CHECK YOUR PROGRESS

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### Check Your Progress –A

Q3. a) iv b) iv c) iii

Q4 a) Market feasibility

b) Project costs and operating cost.

c) cost-benefit analysis and labor to capital ratio

**Check Your Progress –B**

Q3. a)iv b) iv c) iv

Q4 a) Capital structure

- b) Discounted Cash Flow (DCF)
- c) Discounted Cash Flow Techniques
- d) Non Discounted Cash Flow Techniques
- e) Non Discounted Cash Flow Techniques



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**6.8 SUGGESTED READINGS**

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4. Tools and financial analysis and control, Damodaran on valuation by Ashwath Damodaran, Wiley Publication



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## 6.9 TERMINAL QUESTIONS

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- Q1. Comment on the role of the project feasibility reports before the commencement of the project?
- Q2. Why do you feel that the project feasibility study should be undertaken?
- Q3. How demand can be forecasted?
- Q4. Demand estimates are imported for the project feasibility study? Comment
- Q5. What tests does a project should pass to qualify as financially feasible project?

**Block II**  
**Assessing Risks in Project Finance**

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# UNIT 7 PROJECT FINANCE AND COMMERCIAL RISKS

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## 7.1 Introduction

## 7.2 Objectives

## 7.3 Commercial Risk

## 7.4 Contractual Framework

## 7.5 Summary

## 7.6 Glossary

## 7.7 Answer to check your progress/Possible Answers to SAQ

## 7.8 References

## 7.9 Suggested Readings

## 7.10 Terminal and Model Questions

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## 7.1 INTRODUCTION

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With the progress in technology, economic development and population growth the need for large infrastructure investments also grows. These infrastructure developments need funds, not only in developing country like ours but also in developed countries. It 's impractical to rely on the funding by the government. They collect it from the persons in the form of taxes and other indirect forms of collection. The collected fund is further allocated in the form of budget. This kind of funding puts pressure back on the citizens and the government. At this juncture the need of Public-Private Partnership (PPP) arises. For this the government join hands with the private sector players in the direction of the development of the nation. Thus private sector plays a essential role in the financing and development of the infrastructure.

In the project's contractual and financial arrangements risks are mostly considered. But for the investors it's not enough as it doesn't cover all the risks involved. Reasons of this can be like the limited scope due to locations specifically geographical in nature, productivity, equipment and maintenance support, operational efficiency, demand and force majeure . Here force majeure means that the responsible entities don't take the responsibility for the inability to perform due to certain unanticipated events which are beyond their control. Project finance bears such force majeure risks due to the complex transactions involved, various stakeholders and their interests, nature of construction, technology related risk, performance related risk in

future, geographical distances between production and the market and the transportation of the raw material to the production unit and supply of finished goods to the sales counter.

Success of project needs coordination between the various stakeholders like governments, sponsors, guarantors, construction companies, suppliers and other parties. But as they had varied reasons and stake on hold, meeting their expectations becomes tough. As the time horizon for the projects is long-term in nature, estimation of revenue and cash flows from the financial assets become tough. So the dependence for cash flows can't be on the single projects only, but with the multiple projects problems also multiplies. Multiple due to conflicting interests, regulatory and other requirements for project financing and implementation. No two projects can be same, reason being the complex transactions associate with the unique characteristics that they carry with them. The basic risk factors associated with the project financing are;

- Financing structure
- Nature and viability of the project
- Socio-political Risk
- Economic risks as associated with the country of operation

The risks of such nature related to commercialization of the project can be found in the planning, procurement, construction, commissioning and performance of the projects in future. Financial risks can arise due to the cost overruns, which can be due to macroeconomic factors like inflation, currency rates etc. we would read about macro economic factors in next unit. In this unit we will specifically cover the commercial risk.

For broader understanding of commercial risk they are divided broadly into:

- 1) Commercial Risk during the construction, and
- 2) Commercial Risk during the operations

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## **7.2 OBJECTIVES**

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After completing this unit you would be able to comprehend;

- Understand the Commercial Risk associated with Project Financing
- Comprehend commercial risk during the construction
- Handle the commercial risk during the operations

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## 7.3 COMMERCIAL RISK

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Risk management can be considered to be the most difficult aspect of the project financing. So the decision makers must be able to recognize and identify the root cause of risk. Based on such identification they can project the possible consequences and the remedy for solving the problem.

- 1) Commercial Risk during the construction; primarily deals with the initial condition of the project, like regulatory, political, legal and currency risk, markets and other factors like labor, materials, force majeure risks, environmental risk and construction permits
- 2) Commercial Risk during the operations; Operating or performance risk, new and unproven technology, economic and demographic changes.

These risks on proper identification can be transferred:

- Insurance as per the nature of project and time span
- Subcontracting partial or full construction to subcontractor
- Modification in the contract terms and conditions to the involved sponsors and other parties

### 7.3.1 COMMERCIAL RISK DURING CONSTRUCTION

At the stage of construction there can be specific risks associated with the development of plan and bringing into action by constructing the project. Cash flow of the projects can start only in if the project is fully operational on the specified date. If the project is not ready on the pre decided date the cost will increase and the profitability of the project will deteriorate. In the contract of the project it may be a clause that the sponsors should get some compensation for the damages due to delayed constructions.

This phase can vary from several months to several years depending on the nature of the project. For example in case of toll road constructions can be done in months, but in case of Railways (even metro rails) the construction can take years. Due to this reason the lenders of the fund are more exposed to risk due to funds being invested but the cash flows are yet to get generated.

Commercial risk may arise due to the possible reasons like:

**Cost overruns:** In most of the projects the development is always planned in a phased manner. And as we know the life of the project is spread into years and a long time frame is considered for planning and development of the project. Other reasons for such long time frame are due the various stakeholders' interest and the nature of the project. As for the construction of the project various permissions from government and its ministries are

needed. Then the resources and its regular supply had to be ensured with certain agreements on terms and conditions to ensure it in future.

The cost components are linked with the increase in inflation and decrease in time value of money. For example in the case of commercial projects like the road construction, the costs are estimated during the planning phase for the land acquisitions, compensations to the land losers, raw materials, etc. but they are also dependent on the international price factors, low production of the raw material like cement and steel, strikes or any natural calamity like flood etc. in this happens the cost of the project overruns the projected cost inflow and outflow.

**Delays in project:** Project finance relate to issues of long term in nature. For making it effective the long period is divided into various phases. Phase wise the cost (outflow and inflows are divided), but there are many factors which can postpone in the completion of the project. For example in case of

Airport development, it's the permission from the state and central government is to be taken with clearance from aviation ministry, environment ministry, power and electricity department, development and planning authority, etc. to get it on ground. Due to the problems with the timely permissions the contracts get delayed and the costs get increased.

**Start-up and testing problems:** Delivery of projects to the sponsors can be done only when the projects are finally approved and functional. For this the proper testing is done and the quality checks are ensured. Sometimes in case of turnkey projects, the teams are from different countries working in different locations all around the world. And after completion they return back to their country. So before they leave the site the project needs to be checked and tested, then only it can be handed over to other party. When defects are found, they need to be checked and changed accordingly. Due to this reason the project can get delayed for delivery. The impact of this becomes visible in the delayed cash flows and sometimes penalty due to inability to deliver it on time as per contract. This leads to loss of profit for the sponsors of the project.

**Contractor's payment defaults :** Completion certificate from the contractors or the project developer is made at the occasion of handing over of the

project. It happens that if the contractor or such parties' payments are not made then they don't offer the completion certificate. Till transfer of assets, they can't be the part of the balance sheet of the other party. So they can't claim the benefits associated with the depreciation and other taxations issues. This leads to loss of profit and proper cash flows are disturbed due to such payment defaults.

**Hidden defects:** For some projects the problems emerge at the later stage when the projects are delivered. It starts with the discovery of the hidden defects which emerge with the progress and usage of the project after delivery. Cost to the contractors, suppliers and other parties are made previous to the handing over of the project. But

such discoveries of defects disturb the proper cash flow emerging from the project. This kind of risk is also part of the construction lead commercial risk.

**Force majeure:** These risk rises due to not acceptance of responsibility of performance shortfall due to unanticipated events outside the participating entities control. These risks can be like floods, earthquakes or any natural calamity, technical and construction related issue. Companies may be exempted from force majeure risks; still this may lead to a default due to the severity involved.

**Sponsor risk:** Lenders prefer those sponsors who had technical expertise and the financial depth and knowhow for the project. So the lenders like banks consider the sponsor risk into two parts; i) Equity commitment and ii) Corporate strength and experience. If they found both the components in a project their rating becomes favorable for the project funding.

**Environmental Risk:** This arises due to the emission norms and other environmental requirements as per the laws where the project is based. It is a risk of considerable importance as the lenders don't wish to be associated with the project which causes environmental damage. The project may influence on environment in the following ways:

- The construction can effect on the natural habitat, plants and trees and other surrounding which can get affected due to its operations.
- Location of the project near sea, which may impact on the aquatic life adversely.
- Location of the project near to the sensitive buildings like hospitals, heritage sites and other historical monuments.
- Projects impact on local communities and cultures
- Emission norms set by the law of the land for the industries relating the projects
- Water and water pollution due to the presence of the project.
- Effects the existence of the project on the traffic, nearby population, infrastructure which may get affected due to the presence of such big project.
- Future needs of infrastructure which may be needed due to functioning of the project in future and its impact on the environment.
- Raw material needed for production and its impact on environment, like coal from coal mines is extracted and transported for power generation and its impact on environment can be adverse.

**Construction permits:** construction may require a variety of permits related to import of equipments for the project and sometimes temporary import of construction equipments. For example Metro Rail Corporation had to import construction equipments and the material needed for the laying and construction of the tracks. For this the permissions are to be taken from central and state governments, arrangements at ports, transportation to the site, etc.

### 7.3.2 COMMERCIAL RISK DURING OPERATIONS

After the completion of the project the lender for the project financing become depended on the smooth cash flows to pay the loan for the project. At this juncture its important to consider the risk associated with the future cash flows of the project. They are generally subject to the usual operating costs, raw material costs, risk due to regulatory norms and the marketing of the product. To protect themselves the projects should ensure building up of cash, working capital funds and the amount for interest and dividends.

**Operating or Performance risk:** This risk arises due to disrupted revenue and cash flows . The projects are majorly funded by debt. Debt needs to be regularly paid in the form of interest. So, it's very important for the project to keep regularly yield revenues and cash flows. As we had discussed earlier that projects are implemented in phased manner so if one of the phase get disturbed so will the others following it. As a result, the cost gets increased and revenues got delayed, over impact is visible on the cash flow for the project.

As we had seen in the case of non-recourse financing, they purely depend on the qualities of the project not on the credit worthiness of the project sponsors. Even the appraisal for credit is dependent on the cash flows of the projects. In that case project should ensure the smooth flow of revenues and cash flows to avoid any discontinuation of credit. During the operation phase its very important to understand cash flows better. Because the debts are made in such a manner that the actual cash flows from operations will be directly go to the lenders automatically. This is done with the help of security structured such as blocked accounts. The remaining of the cash flows is then transferred to the project company.

Construction risk during the operations should consider the presence of another source for cash flows. This is needed when the cash is generated in excess or shortfall due to certain unanticipated risks like economic and political risks etc. So lenders had to ensure that post construction the operations are handled by experience third party, maintained by contractors with proven track record. With this the fixed costs can be recovered at the earliest. If the project sponsors had the sufficient experience to manage the project, the lenders are sure to receive the funds otherwise they wish it should be handed over to other competent party to mitigate the risk of default.

**New and unproven technology:** with technological development reduction in cost, improvement in product quality can be arising from new technology. But the new and unproven technologies are more risky than the proven and tested technology. Failure of technology can't be ignored due to the acceptance and utility of technology in future. So the lenders wish to reduce such risk associated with new technology. This risk can be minimized with the experienced user of technology during the operations who can guarantee to pay the debt with the proper cash inflows in future.

Lenders carefully assess such risks and potential weaknesses of new technology . Then they price the risk accordingly in their offering of funds. Though the new technology can have great efficiencies but the cost associated with such unproven technologies are generally on the higher side due to higher cost of funds. Through these higher costs the lender can try to reduce risk associated with new and unproven technology.

**Economic changes:** changes in the economic policies like interest rates and levy of taxes can change the structure of structure of repayment of debt. Economic risk considers factors like internal and external debts, inflations, import dependency for raw material, GDP growth. Due to changes in these factors the project may not be able to repay the debt or other obligations. Many of changes in economic environment are unpredictable like Financial and economic crisis. But for a project its necessary to estimate these risk factors in the projection of cash flows through forecasts based on historical data. Even the debts are rated based on economic conditions and the risk associated with them, ranging from D riskiest to AAA least risky (as per Standard and Poor's long term debt ratings).

As per the economic conditions in the country of the project's location the ranking and rating for such debt varies. Such ratings are based on the economic structure of that country including:

- i. Quality and availability of infrastructure (housing, education, transportations, communication, health services etc.)
- ii. Natural resources availability (energy resources, natural ores, agriculture, forest, seas and other natural resources)
- iii. Distribution of productivity (contribution of agriculture, forestry and fishing, mining, construction, production and manufacturing and service sector)
- iv. Public sector contribution in productivity

**Demographic changes:** Commercial risk during the operations is due to rise in level and growth in population, age structure, urban population and urbanization, labor force (skilled, semi-skilled and unskilled).

Post completion of the project, during the operation phase these changes can increase the risk on the project. As projects are based on projections, they are developed to fulfill the need of a particular region, location and population. But with the changes in the rise of demand due to

population and urbanization, the projects purpose can be defeated. For example the water and sanitization for a city is planned and then developed. But with the rise in population puts pressure on these projects and they failed to meet the market demand. Due to these reasons only the town planning projects get failed.



### *Check Your Progress- A*

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**Q1. Discuss the basic risk factors associated with the project financing?**

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**Q2. How the ratings are based on the economic structure of that country?**

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**Q3. MCQs**

- a) Force majeure risk is/are;
  - i. Floods
  - ii. Earthquakes
  - iii. Natural Calamity
  - iv. All of above
  
- b) Sponsor risk include
  - i. Equity commitment
  - ii. Corporate strength and experience
  - iii. Lenders profile

- iv. Only (i) and (ii)
  
- c) Economic risk considers factors like ;
  - i. Inflations
  - ii. import dependency for raw material
  - iii. GDP
  - iv. All of above

**Q4. Fill in the Blanks with appropriate word or words.**

- a) Location of the project near sea, which may impact on the aquatic life adversely, is a \_\_\_\_\_ risk.
- b) \_\_\_\_\_ during the operations should consider the presence of another source for cash flows.
- c) Growths in population, age structure, urbanization, labor force are factors contributing to the commercial risk; they are due to \_\_\_\_\_.
- d) As per Standard and Poor's long term debt ratings \_\_\_\_\_ securities are the riskiest and \_\_\_\_\_ are the least risky.

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## **7.4 CONTRACTUAL FRAMEWORK**

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Contracts and a proper framework are needed to conceptualize the different activities to be performed by each party involved. These agreements are made in advance so that the parties are bound by them. Also every party is clear with its role and responsibilities. This is done with the formalization of the contracts for the followings:

- a) Pre development agreements: before the initiation of the project many agreements should be made for smooth conduct of the project in future.

**Licenses:** it includes permission from the government as per the law of the land to operate in the national boundary. For example foreign companies doing business in India must get prior approval from the government to do business in the country and take the profit back to their respective country after paying the taxes to the government. Companies in the extraction of natural ore from the mines in India, should get license from the state and central government to have production unit. These licenses provide security to the sponsors and lenders and the government too.

**Concession agreements:** For example in case of express highways the government provide the land and other facilities to the contractors to build, operate and transfer back the functional highways to the respective governments at concessional rates. This is an example of Public Private Partnership, where the cost and the risk of such production is shared by both the parties. Private party pays upfront and recovers it in small fractions in future. By this way it becomes beneficial for the public partner to get the development done with less investments and low cost.

**Shareholders agreements:** There are different parties involved in the projects like the government and the private parties. So the shareholders agreements must include the phases of development, construction, voting rights, financing issues related to working capital and operating stage financing, etc.

**Partnership agreements:** For example in case of developmental projects like metro in cities the agreement must be between the State government, Central government and the foreign government. As they have to provide the land (State Govt.), Permission (Central Govt.) and Technology (Foreign Govt.). these agreements prior to the initialization of the projects make the permission for land acquisitions, ministry permissions, local issues and the transfer of technology easier for the project in future.

**Joint Venture Agreements:** Legally the joint ventures are different from both the parent companies. In that case the Joint Venture Company should be properly formed as per the laws of the land. With this the ownership structures, voting rights, technological agreements, human resources agreements, training and development agreements, transferability of shares and ownership, completion of the project etc. should be agreed upon by both parents of the Joint Venture.

- b) **Construction agreements:** For smooth construction of projects by the contractors we need these agreements. They bind the contractors and the sponsors for the various issues related to funds, completion and the payments. They can be for the projects and for guarantees like

**Turnkey project:** With the turnkey projects they have to be started from scratch and handed over the sponsors with training to handle them in future. By this agreement the responsibility to develop and run the project lies with the contractor. After his payment the project get transferred to the respective party.

**Other Contractual Projects:** in other cases the prices and its payments are decided well in advanced. As the project is to be completed in a time bound manner, so the completion certificate from the contractor should be made in the pre decided period only. Otherwise there must be a penalty clause in the agreement.

Most of these agreements tries to consider the force majeure events to the limited once. The contractors are released from their respective liabilities only after the passing of a completion test and the testing period is over.

**Advance payment:** the project company as per this agreement provides the contractor the initial funds to arrange for the raw material with agreements with suppliers, leasing and further agreements, laborers etc. this also binds the contractor to start the project on pre decided date otherwise they could be asked to refund the same amount.

**Retention guarantees:** For the restoration of the defects arising out of construction, which might not be visible at that point in time. This is guaranteed by the retention guarantees. It allows retaining the amount from the progress payment for such defects and before making the final payment to the contractor.

**Maintenance bonds:** even after the completion of the project, testing etc. there can be cases of repairs arising due to issues related to construction. Such bonds can be used by extending the time of the performance or the retention bonds.

**Operating and maintenance agreements:** In the previous section we attempt to diminish the construction of the project associated risk. In this section we will try to mitigate the risk associated with the operations and the maintenance of the project. They include:

**Supply or Pay Agreement:** For the smooth functioning of the project the production unit needs proper supply of inputs. So these agreements tries to ensure the supply of such material or getting paid in cash to purchase it from open market.

**Sales agreements:** prices in the open market can vary due to demand and supply of the product. To protect the lender from such fluctuations in future these agreements ensure the pre decided price for the product from the production unit. For example for a new private petrol refinery it's tough to develop and compete with the existing national and private refineries. But with the starting of such refineries the output should be purchased to get the production on. Through this way the project can ensure the cash flow and mitigating the

market related risk. And subsequently it can generate funds to cover its fixed costs and payment of debt in future.

d) Sponsor support agreements: To bind the sponsors for the payment of funds and taking care of needs arising due to funds, the sponsor support agreements are needed. They support to take care of needs arising due to;

**Working capital agreements:** with these agreements the sponsors are held liable to pay for the capital needed as working capital for the proper functioning of the project. Before the project becomes self sufficient to fund for its basic needs it need to get ensured by the sponsors to take care of working capital needs. For example in a newly developed railway tract the passengers can be less. Due to this the earnings of the project will be less. At this juncture the working capital needs are fulfilled by the sponsors.

**Maintenance and Cash deficiency agreements:** beyond the working capital needs the project may require funds for the maintenance of the project. If there is an agreement in advance the project can expect for funding from sponsors for cash deficiency situations.

- e) Management agreements: In government supported projects where the parties or stakeholders are many, these management agreements help. With these agreements the structure of the management can be decided before commencement of the project. In detail it works on the budgets, its funding, forecasts for future, recordkeeping, reporting to respective ministries/department etc.
- f) Representations and warranties: In the case of international projects where two or many counties are the party. With the help of representations and warranties the important roles can be decided. Representations are contract statements. In these contracts the parties ensure the other party for the authenticity and facts as on date. These contracts bind the legal parties involved in such agreements to fulfill the desired goal with responsibility. Otherwise, they are legally challengeable for the interest of the parties and the project.
- g) Project loan/ credit agreements: the project loan agreement ensure the sponsors to get proper funding from the lenders. And for lenders it gets convinced that the project is viable and profitable in future. For this they do the due diligence, search for the maximum available information regarding the project, and do credit rating of the sponsors and the parties.

A loan agreement specifically involves: i) loan payment and repayment provisions ii) applicable interest rates and provisions iii) risk insurance for the lender iv) representations

and warranties v) force majeure vi) jurisdiction and penalty related information vii) currency rates etc.



### ***Check Your Progress- B***

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#### **Q1. What role does the contractual framework in project financing?**

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#### **Q2. What does a loan agreement involve?**

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#### **Q3. MCQs**

a) Pre development agreements include(s);

- i. Licenses
- ii. Concession Agreements
- iii. Shareholders agreement
- iv. All of the above

b) Construction agreements include (s) turnkey projects and other contractual projects;

- i. Turnkey projects
- ii. Other contractual projects
- iii. Only (i)
- iv. Only (i) and (ii)

c) Management agreements works on ;

- i. Budgets and its funding
- ii. forecasts for future

- iii. Record keeping
- iv. All of the above

**Q4. Fill in the Blanks with appropriate word or words.**

- a) Legally \_\_\_\_\_ are different from both the parent companies.
- b) With the \_\_\_\_\_ they have to be started from scratch and handed over the sponsors with training to handle them in future.
- c) \_\_\_\_\_ bonds can be used by extending the time of the performance or the retention bonds.
- d) With \_\_\_\_\_ agreements the sponsors are held liable to pay for the capital needed as working capital for the proper functioning of the project.
- e) Representations are \_\_\_\_\_ statements

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## 7.5 SUMMARY

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For project financing risk is an inbuilt factor. Risk increases with the use of new technology, market response for product and ensuring regular cash flow. Primarily the involvement of costs and benefits spread over a long period of time.

Lenders of funds wish to invest in businesses with potential of high growth in sales and profitability. They invest is made with financial instruments for medium to long term investment horizons. In the project's contractual and financial arrangements risks are mostly considered. Lenders find that it's not enough as it doesn't cover all the risks involved. Reasons of this can be like the limited scope due to locations specifically geographical in nature, productivity, equipment and maintenance support, operational efficiency, demand and force majeure. For this reason they find to handle the project associated commercial risk.

Commercial risk occur during the construction and operations of the project:

1) Commercial Risk during the construction;

primarily deals with the initial condition of the project, like regulatory, political, legal and currency risk, markets and other factors like labor, materials, force majeure risks, environmental risk and construction permits

2) Commercial Risk during the operations; Operating or performance risk, new and unproven technology, economic and demographic changes.

This risk can be managed with the proper contractual agreements for smooth functioning of the project. Agreements made are for a) Pre development stage of the project b) for Construction related to funds, completion and payments c) for Operating and maintenance of the project d) Sponsor support for the payment of funds and taking care of needs arising in future e) Management agreements for the role and responsibilities of the

management in the project f) Representations and warranties to made the two eligible parties make legal contracts g) Project loan/ credit agreements to ensure the sponsors to get proper funding from the lenders.



## 7.6 GLOSSARY

**Force majeure:** These risk rises due to not acceptance of responsibility of performance shortfall due to unanticipated events outside the participating entities control.

**Operating or Performance risk:** This risk arises due to disrupted revenue and cash flows .

**PPP-** Public-Private Partnership



## 7.7 ANSWERS TO CHECK YOUR PROGRESS

### Check Your Progress –A

Q3. a) iv b) iv c) iv

Q4 a) Environmental

b) Construction risk

c) Demographic Change

d) D and AAA

### Check Your Progress –B

Q3. a)iv b) iv c) iv

Q4 a) Joint ventures

b) Turnkey projects

c) Maintenance

d) Working capital

e) Contract




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## 7.8 REFERENCES/ BIBLIOGRAPHY

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- Pre defined reports on government infrastructure projects Government of India
- Project Finance Ratings Criteria Reference Guide-S&P Ratings
- Public private partnerships in India <https://www.pppinindia.gov.in/>
- World Bank Reports on Project Financing




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## 7.9 SUGGESTED READINGS

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1. India infrastructure finance company Limited [www.infrastructureindia.gov.in](http://www.infrastructureindia.gov.in)
2. Public private Partnerships in India [www.pppindia.gov.in](http://www.pppindia.gov.in)
3. Risk of Project Financing of Infrastructure Projects  
<http://www.academicjournals.org>
4. Project Infrastructure [www.moody.com](http://www.moody.com)
5. Project finance [www.spratings.com](http://www.spratings.com)
6. Mitigating Commercial Risk in Project Financing [www.worldbank.org](http://www.worldbank.org)




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## 7.10 TERMINAL QUESTIONS

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- Q1. Commercial risks during the construction are different from the commercial risk during the operations. Elucidate
- Q2. What are the commercial risks associated with the project financing?
- Q3. How the commercial risk of project financing can be mitigated?
- Q4. How does the pre development and post construction agreement help the projects in future?
- Q5. Contractual frameworks bind the parties and are important for the projects. Comment

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# UNIT 8 PROJECT FINANCE AND MACROECONOMIC RISKS

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## 8.1 Introduction

## 8.2 Objectives

## 8.3 Macroeconomic Risks

## 8.4 Managing Macroeconomic risks

## 8.5 Summary

## 8.6 Glossary

## 8.7 Answer to check your progress/Possible Answers to SAQ

## 8.8 References

## 8.9 Suggested Readings

## 8.10 Terminal and Model Questions

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## 8.1 INTRODUCTION

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In the previous unit you have understood the commercial risk associated with the project. It was during the construction and operations of the project. In this unit we will try to understand the macroeconomic factors and their impact on the projects.

For the economic and financial development of the country the sound infrastructure is needed. With the growth in population and economic development demand to have infrastructure to support development also grows. Need for large infrastructure requires investment of funds for long term in nature. Projects importance can be well understood for the developing and the underdeveloped countries due to resource constraints. Resources like budgets availability with the government can't fulfil the desired development. At this juncture the Public Private Partnerships (PPP) plays an important role. For this the government works together with the private sector to develop and provide financial infrastructure to the projects.

Businesses operate in multi nations with different products and services. For this they develop different projects in different currencies and get funded by different financial institutions and banks. These financial institutions and banks provide funds in their respective currencies. This makes the exchange risk between these currencies an important factor to be considered for the project financing.

Through tenders and offers from governments and private organizations, the local as well as international parties can go for business opportunities. These parties are not restricted by the national boundaries. Foreign companies and other legal entities take part in the development of the developing countries like India. They invest and get healthy returns from such investments. Their returns are dependent on various factors like inflation rate, interest rates and exchange risk prevailing with the different currency sets. Currency sets mean the home country currency and host country currency. For a company from United States of America (USA) the home country is United States Dollar (USD) and if operating in India the host country currency is Indian Rupee (INR).

Primarily we will discuss in length the inflation risk, interest rate risk and exchange rate risks and how to manage them for the benefit of the project.

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## 8.2 OBJECTIVES

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After reading this you would be able to understand:

- Understanding the macroeconomic risks of a project
- Understanding the impact of Inflation rate, interest rates and exchange rates on the project financing
- Managing these macroeconomic risks for the projects

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## 8.3 MACROECONOMIC RISKS

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The presence of uncontrollable factors makes the project financing risky. And when there are national and international factors impacting on the project it become more complicated for the lenders to access. Macroeconomic risks are those risks that affect on the investments for project due to the economic environment of the host country. These risks are external in nature and are beyond the control of the project sponsors. Economic Intelligence Unit (EIU) classifies macroeconomic risks as environmental risk surrounding the project. This had an important distinction for the risk elements related to project funding like the interest rates, foreign exchange risk etc. These risks are linked with the internal decision making process of the project and the actions taken.

Macroeconomic risk primarily refers to inflation, the interest rates and exchange rates for foreign projects. It is a external factors effecting on the performance of the project externally. So being an external factor makes it uncontrollable. It varies from country to country, so with diversified project portfolio the returns can be varied but the risk can't be nullified.

The macroeconomic risk varies from developed to the undeveloped countries. In case of developing countries like India the infrastructure needs are many, but there are various issues associated with the existing economic factors at that point in time. Risk increases in such countries due to the unpredictable and unstable macroeconomic factors. It got riskier with the lacking stable economic policies. For example international companies don't find the monetary policies to be sufficiently mature and stability promoting for long term. Due to foreign currency involvement there is the presence of transfer risk. Transfer risk refers to the subjectivity to inflation, depreciation and convertibility risk existing between the currencies.

### **8.3.1 INFLATION RISK**

Controllable and uncontrollable risks are of utmost importance for the decision making regarding the project. It's almost impossible to find a business entity that is not affected by changes in the inflation. Inflation reduces the purchasing power of the currency and hence the real income of the projects. Due to this reason the income and the cash flows for the firms yield amount with lower purchasing power.

Due to inflation which is a result of improve of money supply in the economy, the price rises. In case of our country the inflation rate had been moderate. Inflation affects the industries and businesses in two ways; i) impacts on the asset creation activities in the economy leading to lower demands, and ii) impacts the capital structure of the business entity

A business with their intelligence network tries to monitor inflation. But inflation is neither a unique concept related to investments nor an easily measurable one. Economist measure inflation with the Harmonized Index of Consumer Prices here the combined rates of various baskets of products are considered. It stands good and true for the economy, but not for the project financing. Reason being project financing also had various basket of products to be considered for products and services. Inflation affects every such product and services but very differently. It varies from gas and pipeline to agricultural investments. So such components had specific need of the tailor made indexes to calculate such inflation.

To stabilize the impact of inflation the contractual agreements are made. Such agreements ease the inflation risk detection, management and mitigation of macroeconomic risk. Through discounted cash flows the impact of inflation on capital budgeting investments is tried to reduce to the maximum extent. Financial modelling is used to reduce such project finance related risks. But inflation risk impacts the whole project financing model, because it damages the real returns of the project's investment.

Purchasing power parity, spot and forward parity and interest rate parity formulas had proven the links between the inflation rates, interest rates and foreign exchange rates. For a developing country the raising of foreign debt is expensive due to high inflation and interest rate in their home country. But the positive side is the devaluated currency. So lenders have

to consider such factors in mind before raising capital from national and international financial markets.

The local currency is considered to be not a very functional currency. Reason being the revenues and costs are measured in the inflationary local currencies and then converted into the foreign stable currency. For this conversion the exchange rate considered reflects relatively depreciated in producing dollar equivalent amounts which don't show the true situation. The parent organizations financial statements reflect the losses due to the exchange losses as they can't be reversed and hence represents the real cost to the firms.

Inflation affects the projects in following ways:

- 1) **Growth rate:** Inflation impacts on the real growth rate. This gets affected due to the decrease in the purchasing power and impact of such growth gets reduced due to inflation. This way the real earning potential of the projects get hampered even when they start generating cash flows and revenue as projected. As a result even with positive growth rate the project becomes less lucrative and sometimes in unable to get funds for the following phases of the project.

In some of the projects it had been observed that even with positive growth rate, the projects are discontinued due to rise in the cost and less lucrative returns yield by the projects.

- 2) **Cost of capital:** Largely the inflation is element of the cost of capital. Due to this the projects have to pay a premium for the inflation. Inflation in an economy guide to the difference between the real cost of capital (i.e. after removal of effect of inflation) and the nominal cost of capital (i.e. including the inflation rate in it). So a higher inflation rate leads to higher dissimilarity in the real and nominal cost of capital for the projects. For this reason in case of inflationary economy the real cost of capital is lower than the nominal cost of capital.

This can be expressed mathematically with the following equation:

$$K_i = R * (1+i) + 1 \quad 8.1$$

Alternatively we can present eq. 8.1 as,

$$K_i = (1+R) * (1+i) - 1 \quad 8.2$$

Here  $K_i$  = Nominal rate of return

R= Real Interest rate

i= Inflation rate

This formula is used to calculate the impact of the inflation on the cost of capital.

Example: If in year 1 the real rate of return is 10% and inflation is 7% and in year 2 the values are 10% and 12% respectively for the real rate of return and inflation, we have to calculate the nominal rate of return for the two different periods.

For year 1 putting values in equation 8.1

$$K_i = 0.1 * (1 + 0.07) + 0.07 \quad K_i = 17.7\%$$

For year 2 putting values in equation 8.1

$$K_i = 0.1 * (1 + 0.12) + 0.12 \quad K_i = 21.2\%$$

If we compare both the years we can see that with the rise in inflation by 5% (10%-7%), the Nominal Interest Rate rises to 3.5% (21.2%-17.7%). The 10% real cost of capital had increased to 17.7% and 21.2% due to inflation of 7% and 12%.

It is with a 7.7% (17.7%-10%) increase in the cost of funds in year 1 and 11.2% (21.2%-10%) for year 2. It had two components each the interest rate plus the real return :

In case of year 1 situation 0.7 percent (7% of 10% interest rate) is needed to maintain the real return (cost) and 7% (7% of initial investment of 100) is needed to maintain the real value of the initial investment. While in case of year 2, 1.2 percent (12% of 10% interest rate) is needed to maintain the real return (cost) and 10% (10% of initial investment of 100) is needed to maintain the real value of the initial investment.

Here we can see the whole impact of the inflation risk on the whole project finance model. Increase in inflation damage the real returns of the investors and the lenders as the debt service dries out. In such situation ensuring regular and real cash flows becomes a major challenge for the project financing.

- 3) Shareholders value and share prices: in a long term perspective the inflation had a negative impact on the shareholders value and its prices. As the fund managers of the companies have to ask for increasing their earning per share (EPS). For this they have to increase their earnings growth by a huge percent to overcome the value destroying effects of inflation. Actually inflation makes it hard to create value for the projects and companies. And when the annual growth rate becomes more than the long term average levels it becomes unpredictable for the managers as well as the investors. Due to this the cost of capital in real terms gets pushed up and leads to loss on net asset positions.

Issue with companies is that they can't pass on the cost increase to their customers without losing the sales and market share. In long run this non passing of cost gets tough though the costs keep on rising, it influences cash flows in real terms.

- 4) Operating and net cash flows: With the increase in the costs the cash flows get affected due to the variation in the nominal and real rate of return. And with the timing of the effect on the inflows and outflows make it more complicated. With the rise in the price of raw material the price of the final product also increases. But demand of the product doesn't rise as the inflation does. So this gap leads to poor flow of operating and net cash flows expected from the project.

- 5) Capital Budgeting Techniques: Post financial crisis of 2008 recession the whole macroeconomic structure around the world had changed. Risk premiums on debt and equity had increased due to shortage and strict risk management by financial institutions. So for project the long term financing had lost its charm in absolute value terms and time extension. Now the projects with shorter life are being preferred.

A project in a developing country with high inflation is likely to have a higher interest rate, inflation rate and devaluated currency. Funds raised from foreign financial institutions for such developing countries can be a cheaper source but it's fully compensated by currency devaluation. Due to this the foreign debt becomes more expensive. Now through the capital budgeting techniques projects with earlier payback period and net present value better than the cash outflows are being considered.

### 8.3.2 INTEREST RATE RISK

Interest rate fluctuations generate more risk for the project, specifically for projects with highly-leveraged project financing. And if the project is in a developing country it requires more of critical evaluation of cash flows in future. Because of instability of economic policies, political system and other macroeconomic issues the interest rate risk escalate.

In other words we can say that the interest rate risk arise due to the chances of it increase during the life time of the project. More importantly for the infrastructure projects in India we need high capital intensity with long payback period. Here high capital intensity indicate a large portion of total cost is represented by the interest cost. Risk increases with the long payback period due to modification in the interest rate in the duration of the project.

For International financing in case of the project fund lending agency

funds tries to reduce his risk by funding in local currency. This is also known as successful cost of hard currency borrowing, as it consist of the hard currency interest rate and the cost of hedging). By this way the international fund provider or lending institution tries to bring it to the local currency borrowings. This puts pressure on the project to generate periodic and predicted cash flows.

Interest rates mainly concern the debt burden of the projects towards its financiers. These lenders are having investment in projects with a long term horizon. So generally the projects are financed by long term borrowings. Interest rates on such instruments play a prominent role for project financing. Cost of financing i.e., interest rate, had two components; i) the reference rate [(as decided by the lending institutions or prevailing rates like Mumbai Inter Bank Offer Rate (MIBOR) and London Intern Bank Offer Rate (LIBOR)] and ii) the interest margin (difference between project risk premium over the risk free assets like government bonds).

For project financing the sponsors can ask for floating interest rate loans. But such interest rates are very tough to keep align with the other floating macroeconomic factors. Due to this reason for project financing the preferred rate is the fixed interest rate. Some project had find a midway by incorporating the debt tied up with the floating reference rate. But for having such interest rates the project should have to have enough available cash flows to service such financial commitments.

We can say that the interest rate is reliant on the growth of the economy and other uncontrollable national and international factors. So whenever the economies go through the cycle of increase or decrease of the reference rate, the interest rate changes.

Developed country companies find the underdeveloped financial market of developing markets a hurdle in mitigating risks. Reason is the absence or less such risk mitigating instruments like derivatives for interest rate swaps.

The factors like interest rates are important as it effects on the projections with other factors. Reason being that any delays or cost increase of any nature may delay the loan repayments and will increase interest and debt to buildup. Other factors like interest rates are exchange rates, inflation, taxes (at home and host country), payment delays and other contingencies during the project.



### *Check Your Progress- A*

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**Q1. Define macroeconomic risk for a project.**

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**Q2. Explain how the inflation risk affects the businesses and projects**

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**Q3. MCQs**

- a) Purchasing power parity formula had proven the links between the
- i. inflation rates
  - ii. interest rates
  - iii. foreign exchange rates
  - iv. All of above

- b) A project in a developing country with high inflation is likely to have a higher
- i. Interest rate
  - ii. Inflation rate
  - iii. Devaluated currency
  - iv. All of the above
- c) In the equation  $K_i = (1+R)^i(1+i)^{-i}$ , K, i, R and I stands for;
- i. Normal rate of Return, Real Interest rate, Inflation rate
  - ii. Nominal rate of return, Real Interest rate, Inflation rate
  - iii. Non Cash rate, Real Interest rate, Index rate
  - iv. None of the above

Q4. Fill in the Blanks with appropriate word or words.

- a) MIBOR is \_\_\_\_\_
- b) Cost of financing; interest rate, had two components \_\_\_\_\_ and \_\_\_\_\_
- c) LIBOR stands for \_\_\_\_\_
- d) FPI stands for \_\_\_\_\_

### 8.3.3 EXCHANGE RATE RISK

As we had discussed earlier that the project needs funds for long gestation period, so such financing institutions shall be there to lend. It's easier to raise funds from the international markets than Indian financial markets due to lower cost of capital. So if cross border transactions are to be made they have to be made in two exchangeable currencies. A business can't rely on only one currency as currency for trade; reason is its acceptability between the nations for world trade. For this we need a market for exchange of currencies and it is known as foreign exchange market. This market facilitates the trade of currencies to have international transactions. The participants in this market are the major financial institutions in the world financial centers like London, Singapore, Mumbai etc. the trading takes place electronically between the buyer and seller institutions. Its main function is to let the buyers and sellers meet and agree to trade in currencies at a matched rate. Such matched and agreed upon rate is known as exchange rate. For simplicity we can say that it's the price of one currency in terms of other. For example if we wish to purchase US Dollar for tourism or education loan we can buy them by paying in Indian rupees (INR) at the current exchange rate available with the commercial banks.

If we had surplus US Dollars after coming back India from USA we can sell the dollars at the exchange rate and collect Indian rupees at the existing exchange rate with the commercial banks.

Here the issue is to get funds in the tradable and suitable currency. The ease of use of foreign exchange is dependent on the demand and supply of that currency and prevailing agreement between the countries. The other factors that decide the exchange rates are like inflation rate and interest rates differentials between the two countries (here one country will be the domestic country and other will be known as foreign currency).

On implementing the same concept in case of project we will find that there are many things where the exchange rate plays an important role. For project we need machines to be purchased, technical experts to be paid the remuneration, raw material for production to be shipped from international markets, patents and copyrights to be paid for, technology transfer is to be compensated by the project, interest to be paid to the lenders etc. all of these needs foreign currency. So at the time of payment or at receiving of foreign currency exchange rate changes, it would have unfavorable and favorable impact on the project.

Exchange risk arises due to exchange rate differentials between the home and host currency. For any American multinational company operating in India, US dollar is the home currency while Indian rupee is the host currency. So at the point of change in exchange rate due to various internal and external factors, the project had to bear the cost. We had seen it in the case of modifications in the monetary policy of the country by the central bank. These changes are considered for the betterment and stability of the economy, but its impact varies from project to project.

This risk is important more for project having funding from international financial institutions in a different currency than the home currency. For example for a US Company who had raised debt in US Dollar for operating in India with earning in Indian Rupees.

It gets more complicated when the foreign company is supposed to earn in a different host currency than home domestic currency. For example if a US Company is operating in India it earns in Indian Rupees and its earnings are in rupees while it sent back the US Dollar to its home as income.

In projects with Foreign Direct Investment (FDI) the management had the control to change the operations and reduce the exchange rate risk. But projects with portfolio investments (Foreign Portfolio Investments, FPI) are more exposed to exchange rate risk due to less control of the enterprise and the inability to structure operations. Aliber's Exchange risk theory states that with the variations between the interest rates between the two countries

there is a prominent role of exchange rates as well. It states that with a undervalued currency there is opportunity for the country to become the low cost center of production globally. Foreign investors will try to explore and exploit this opportunity of production at cheaper

cost. For this they will be eager to buy in such countries as they would be getting cheaper deals. Vice versa in developed countries with overvalued currencies there is no location advantage as a source country. Due to overvalued currency the country becomes a high cost center of production. So funds wishes to move out the country to acquire foreign cheaper assets in countries with underestimated currency with favorable exchange rate.

These three rates i.e., inflation rate, interest rates and exchange rates decides the purchasing power of the currency and decides the future of the country.

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## 8.4 MANAGING MACROECONOMIC RISK

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In risk management process the key steps include;

- Risk identification
- Risk assessment
- Risk mitigation
- Risk monitoring

Identification of risk is the most important step in the risk management process.

This attempts to find out the source and the type of risk. We had seen earlier that with contracts the responsibilities are assigned to respective party after finding the kind of risk. By correct risk identification we can develop the analysis and control of risk through proper management. A project tries to identify the most important risk factor for effectiveness. It is a known fact that the project risk identification and mitigation acts as most crucial steps in making of the project successful. If the reasons for risk are not identified that it may lead to undesirable set of events like delays in construction of project, rise in cost of construction, more spending than projected and planned which lead to unplanned results and outcomes from the project. Because of these reasons the projects may fail or can lead to yield less cash flow than the projected.

If we had identified the risk for the project as macroeconomic risk, then this can be managed in the following ways;

1. Entering into a Public Private Partnership (PPP) model for the project.
2. Having a fixed price turnkey contract to safeguard against any macroeconomic risk to reduce the cash flows for the project.
3. Operator's involvement at early stages of the project to maintain costs and ensure cash flows. This can further lead to enter into pass through agreements where the input costs can be passed on to the purchase.
4. Indexing the raw material prices to the spot prices of the finished goods.

5. Promote reliance on project companies or special purpose vehicles (SPV) as they are separate entity, can have high gearing i.e, more than 50% debt, promotes focused approach towards the investments, expenditure and cash flows.
6. Confirmation and fixation of prices for the product in the market to ensure regular cash flows from operation of the project. For such sale the project can have the off-take agreement . For example Petroleum Purchase agreement between a petroleum refining project and petroleum marketing company.
7. Issuing more of bonds for paying interest throughout the term of the loan and principal at the maturity the loan .
8. Operating costs are majorly impacted by the macroeconomic risks so the pass-through cost structures can be of good help. In these structures the projects input costs are passed to purchasers, so any increase in the project input costs doesn't impacts the cash flows of the project.
9. Relying more on the local currency funding, insurance and offshore accounts to reduce the risks.
10. Currency swaps and hedging should be used to reduce risk.
11. Interest rate swaps for having a contractual agreement for exchange of periodic cash flows between two counterparties. These parties may be operating in two different countries. So cash flows calculate on nominal value at a floating rate can be exchanged for the cash flows of the same nominal value at a fixed interest rate.
12. Transferring risk through; i) insurance ii) subcontracting to subcontractor(s) and (iii) modifying the terms of contracts



### ***Check Your Progress- B***

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**Q1. Discuss the Aliber's Exchange Risk Theory and its importance for the country and its currency.**

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**Q2. What are the key steps in risk management process?**

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**Q3. MCQs**

a) Purchasing power of the currency is decided by

- i) Inflation rates
- ii) Interest rates
- iii) Exchange rates
- iv) All of the above

b) Foreign exchange is dependent on the and prevailing

- i) Demand and supply of currency
- ii) Agreement between the countries
- iii) only (i)
- iv) both (i) and (ii)

c) Risk can be transferred through;

- i) insurance
- ii) subcontracting to subcontractor(s)
- iii) modifying the terms of contracts
- iv) All of the above

Q4. Fill in the Blanks with appropriate word or words.

- a) PPP stands for \_\_\_\_\_.
- b) SPV is \_\_\_\_\_.
- c) Foreign Portfolio Investments ( FPI) are more exposed to \_\_\_\_\_ due to less control of the enterprise and the inability to structure operations.
- d) Currency swaps and hedging are used to reduce \_\_\_\_\_.
- e) \_\_\_\_\_ and \_\_\_\_\_ of prices for the product in the market to ensure regular cash flows from operation of the project.

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## 8.5 SUMMARY

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The apex financial institution of the country Reserve Bank of India

(RBI), Board of India (SEBI) tries to stabilize the Indian economy. The foreign financial institutions who wish to get returns from the development of the Indian economy used to invest in the Indian markets. Funds can be collected by issuing equity and debt instruments. But raising funds from the international markets is comparatively cheaper. But for foreign investors such investments are be considered by keeping in mind the macroeconomic factors i.e., Inflation rates, Interest rates and exchange rates prevailing between their home currency and the Indian currency.

All of such macroeconomic risks are external and uncontrollable risk factors. Still for a project financing it needs to be understood in length and managed properly after identification.



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## 8.6 GLOSSARY

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**INR** Indian Rupee

**EIU** Economic Intelligence Unit

**EPS** Earnings Per Share

**LIBOR** London Inter Bank Offer Rate

**MIBOR** Mumbai Inter Bank Offer Rate

**PPP** Public Private Partnerships

**RBI** Reserve Bank of India

**SEBI** Securities and Exchange Board of India

**SPV** Special purpose vehicles

**USA** United States of America (USA)

**USD** United States Dollar



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## 8.7 ANSWERS TO CHECK YOUR PROGRESS

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### Check Your Progress –A

Q3. a) iv b) iv c) ii

Q4 a) Mumbai Inter Bank Offer Rate

b) The reference rate and the interest margin

c) London Inter Bank Offer Rate

d) Foreign Portfolio Investment

### Check Your Progress –B

Q3. a)iv b) iv c) iv

Q4 a) Public Private Partnership model

b) Special purpose vehicles

c) exchange rate risk

d) Risk

e) Confirmation, fixation



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## 8.8 REFERENCES/ BIBLIOGRAPHY

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## 8.9 SUGGESTED READINGS

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3. //www.sebi.gov.in
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6. Vasant Desai “Project Management’ Himalaya Publishing House, New Delhi.



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## 8.10 TERMINAL QUESTIONS

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- Q1. Comment on the impact of macroeconomic factors on project financing?
- Q2. Why is it said that the macroeconomic risks are manageable but can't be fully eliminated in project financing?
- Q3. How the inflation impacts the cash flows of the project ? For you inflation is always bad for the project or good?
- Q4. What is the difference between the real rate of return and nominal rate of return?
- Q5. How the project finance manager does manage the macroeconomic risk for the project financing?

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## UNIT 9 REGULATORY AND POLITICAL RISKS

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### 9.1 Introduction

### 9.2 Objectives

### 9.3 Regulatory Risk

### 9.4 Understanding Political Risk

### 9.5 Summary

### 9.6 Glossary

### 9.7 Answer to check your progress/Possible Answers to SAQ

### 9.8 References

### 9.9 Suggested Readings

### 9.10 Terminal and Model Questions

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## 9.1 INTRODUCTION

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Over the last 20 years, the usage of project financing has been growing. It is a method of financing in which the project is established as a legally independent entity, financed mostly by non-resource loans. It is the way the project is funded, developed as a legally independent entity, financed mainly through non-resource loans. Since the regulator, civil society and financiers generally scrutinize these projects, the sponsors of the project allot additional resources for the management of environmental and social risks. If not well handled, environmental and social threats may trigger project activities to be interrupted or halted and result in legal problems and reputational impacts that endanger the ultimate performance of the project.

It should be pointed out that all investments are more or less associated with risk. Investors should be prepared to face an investment situation where there is a significant loss. For a listed company this loss would be subsequently passed on to its shareholders. But for a general partnership, limited partnership investor may lose more than their principal invested amount.

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## 9.2 OBJECTIVES

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After reading this you would be able to understand:

- The regulatory risk and its impact on the Project.
- The political risk and its management.

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## 9.3 REGULATORY RISK

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Total project life cycle has one of its activities for regulatory appraisal, clearance from statutory authorities and to make provision in the project for its permanent solution. This involves the activities for example; appraisal and study off environmental project in common. To provide facility in the project, to obtain the clearance from the statutory authority, to implement, to implement the pollution control project along with the main project and to monitor regularly the pollution control norms during the operation after the completion of the project. Therefore now-a-days, for any new project, approval of government, Ministry of Environment and Forest, Department of Environment is mandatory. It has therefore become necessary to make a study for the regulatory problems caused due to the new project and also to find out the solution to these problems.

Uncertainty over time behind new or evolving laws. Regulatory risk is the possibility of a change in laws or regulations affecting the health, economy, sector or industry in a serious way. Changes in policy or regulatory laws or regulations may result in higher operating costs, decrease the profitability of an enterprise, or alter the competitive environment. In addition to financial needs, infrastructure and goods, the ventures are subject to regulatory risk and to divulging activities. It may increase operational cost, slow down the operations, and at times even restrict a business functions. Therefore, any change in regulations can cause an industry-wide rip effect. Regulatory risk arises when uncertainty and regulatory interactions change the cost of financing a company's operations.

There can be no regulatory risk without uncertainty and two broad categories of uncertainty need to be identified. The natural stochastic behaviour between buyers and sellers in any industry contributes to business uncertainty. This includes the impact of global disruptions, unexpected technical development, shifts in preferential arrangements, and shifts in income distribution across individuals and changes in population distribution across regions. Whilst all firms are aware of the consequences of market uncertainty, whether regulated or not, market insecurity does not render a regulatory risk assessment irrelevant.

Environmental and legal concerns have a major impact on the successful completion of a project. Therefore, the impact on the environment on the project should be assessed before and after a project has been undertaken. In addition, analysing the impact of a future project on the environment will help the project manager define rational goals for the project and the organization.

The project manager should acknowledge these regulatory processes as a part of good planning, instead of regarding them as barriers to the achievement of project goals. The

project manager should obtain the necessary clearances from environmental protection agencies before starting the project. If possible, he should integrate these regulations (legal, environmental, etc.) into the overall plan of the projects.

All the projects should comply with all aspects of the law. Organizations usually take the help of legal advisors to ensure that the activities of the project manager and his team are in compliance with the law. Legal advisors must ensure that the project has applied for and received all the required permits and licences.

### **9.3.1 REGULATORY RISK FROM REGULATORY CHANGES**

Government and regulatory bodies frequently make new or update old regulations. Examples of regulatory changes that could affect businesses or industries are given here:

#### **Tariffs and trade policies**

Changes in foreign trade policies will impact companies exporting and importing products regularly. Investors who invest through foreign direct investment are also affected. For instance; many countries have restricted guidelines to set up business in their home country. For example China only allows businesses through joint ventures, partnership in its land. For a long time investment in China's capital market is subject to many restrictions, only recently they made changes to its policies.

#### **Tax Policy**

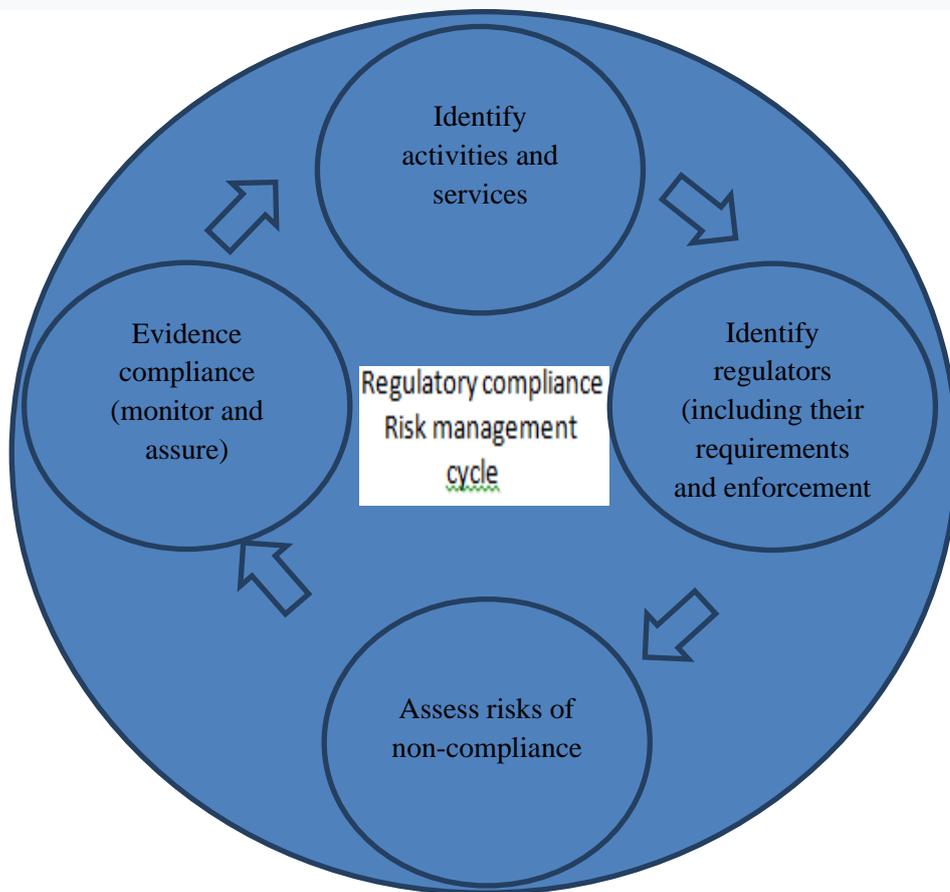
Changes to income tax law affect the respective parties' income directly and could pose a new regulatory risk.

#### **Minimum wage laws**

Improving minimum wages can be a major source of regulatory risk because they have a significant impact on enterprises, particularly in hiring vast numbers of poorly qualified employees.

#### **Financial Regulations**

Regulation regarding disclosure of financial reports timely, operation and investment approaches, maintaining liquidity requirements is the domain of financial institutions. Yet financial regulation involves more than just laws – it also applies to constant control and compliance. Poorly controlled financial institutions have the potential to weaken the financial system's stability, harm buyers and harm economic prospects.



**Fig 9.1 The Regulatory Risk Cycle**

**Regulatory policies pose top risk to India Inc.** Enforcement and regulatory problems are rife with corporate operations in India from widespread corruption to bureaucratic red tape to diverse cultural traditions. However, the benefits of the rising market and its professional labour are greater than the regulatory exposure. Though the rapid push to outsource IT and back office processes to India has slowed, it remains the number one destination for business outsourcing. Of 10 leading offshoring locations, six are located in India according to “The Handbook of Global Outsourcing and Offshoring,”

Nonetheless, if American businesses want to develop productive operations and relationships, they need to familiarize themselves with the cultural complexities and the particular threats of India. Major projects in India often require government officials to pass through. Indeed, many firms seem unanimous about whether or not business in India can even be carried out

without a bribe. The KPMG survey also showed 55 % of respondents in India faced bribery and corruption. And 71 percent said that bribery and corruption caused their organization "a considerable risk." The bureaucratic system is another prominent issue in India. It takes a lot of time to clear anything in India. Another hurdle to the compliance of contracts in India. The justice process is so encased that it is almost difficult to settle some sort of civil dispute. India's judicial system has backlogged cases for over 350 years (more than 30 million). Many businesses and other third parties therefore fail to take action against harassment.

### **Project risk determining factors**

Projects are used as an activity organization for the achievement of desired objectives in all economic and non-economic areas. And the risk associated with these activities varies in each sector and also within different project in same sector. However, they will probably depend on the following.

#### **Nature of the project**

Even within a sector, the technical details of projects are very different. There are also common areas between sector and across. A project may require certain approvals from government authorities to use particular asset like real property (mining), intellectual property. These perspectives may lead to absolute loss approvals would be denied.

#### **Location of the project**

The risk of a project located in a less-developed country is probably greater than that of a project in a more economically-developed country. Any political unrest, economic instability, policy ineffectiveness, inconstant market etc. create a high risk to any venture. Developed economies may however pose different types of challenges to a project like regulatory restrictions, environmental, financial, tax reforms, and legal regulations.

#### **Participants in the project**

Typically, projects are supported by private enterprises with specific, usually very extensive experience the sector where the project should operate. The private sponsors have to work directly with political or bureaucratic State-owned organizations.

#### **Predicting Regulatory Risk**

Regulatory risk is increasing, yet many companies still do not adopt an integrated risk-based approach to compliance. Companies, who can foresee possible regulation will enable this experience to enhance market processes, deter non-compliance and build a more favourable relationship among consumers and policymakers. Financial service firms require clear systems to identify and incorporate knowledge into schedules and activities in order to stay abreast of evolving laws and issues.

To bring the new rules into the workflow, a company needs business process management tools. Hence, the end-to-end approach is not handled by any particular technology; this would be a blend and depend on the dynamic complexity and size of the market.

In their support of regulatory risk management, technology providers find potential market place.

### **The key is an integrated approach and data quality**

More and more reporting standards also rendered businesses more accountable, particularly in the fields of trading, risk management and fees. Many companies collect these data and retrieve it to the company to create a single risk view. The key to deriving value from technology is to make sure information becomes useful knowledge.

### **Risk management strategies to reduce Regulatory Risk**

The traditional risk management model is to operate three defence-based lines in which the business group manages the risk, supervises the management and then audits the process to evaluate the success. Imposing compliance enables companies to improve control of their regulatory risk exposure. This has to be built carefully if businesses want to deal regulations effectively like many other risks.

Company leaders would need to develop the right atmosphere for a risk-based strategy to bed down and transition. In a certain way, investments are required in and include emerging technology providers in building capacities that meet authorities' expectations.

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## **9.4 UNDERSTANDING POLITICAL RISK**

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While political risk assessment has always been a part of any enterprise. It dates back to 1960s in literature. The political risk is likely to impact the local business and/or investment climate through government decisions or governmental acts in ways that can cause external companies to suffer losses. In general, the term political risk has come to be used to describe a component of country risk.

Political risk implies the risk occurs because of the alteration of a country's governing structure, thereby presenting a risk on investment in different investment classes. There may be a change in the political scenario, leading to corruption, terrorism etc. in relation to a country's politics which could lead further to changes in the national rules. Political risk may also be referred to as geopolitical risks arising from conflict between two countries, which can hinder companies and ultimately reduce the level of investors' confidence. For example any adjustment by the ruling government in the corporate tax rate could increase/decrease company income. Some legal considerations may also call into question the way business is done and lower profitability and increase investor risk.

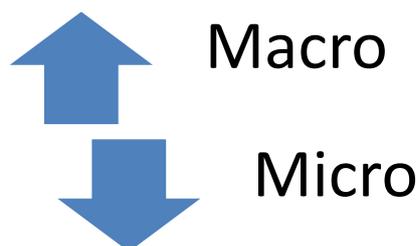
The points mentioned below should be taken into account to manage the political ecosystem

- *Ideology*: When the ruling party ideology changes, a country undergoes changes. In every country ruling party inculcate its ideology over the policies of that economy.
- *Stability*: A country's environment can change because of violent situations and cultural divisions based on language or other factors that cause instability. For

example, the unrest in Somalia and Czechoslovakia raises visibility and decreases market trust in these nations.

- *Foreign relations:* Country relations have improved over the two decades. This is mostly because of the growth of GATT, NATO and the EU as they have made a great deal of progress in reducing the 'international' tensions.

### Classifying Political Risks



**Fig 9.2 Classifying Political Risk**

- The macro risk is related to the multinationals those have enterprises across more than one country and who sometimes compromise with earnings due to different functional regulations.
- While internal conflicts such as corruption, poverty, negative manipulations etc. are causing micro-risks.

### 9.4.1 TYPES OF POLITICAL RISK

Political policy affects everything from taxes to interest rates and political events can have dramatic consequences on asset price or business costs.

**Trade Barriers:** Trade hurdles such as tariffs will reduce profits margins or discourage competitiveness in the international market. Trade barriers are often the result of local politics or trade wars.

**Taxes:** Changes in taxes will decrease the earnings of companies and impact its security prices. Complex tax regulations can also be a burden for small companies that need to invest limited resources to understand the new rules and comply

**Legislation:** New legislation may lead to the cost of compliance as companies may need to modify their operations, products or business processes

**Administration:** Administrative delays can result in political turbulence. a government can begin to withhold approvals for company including construction permits.

**Political Instability:** The long-term business operation in one country can be completely disturbed through political instability such as terror, riots, assaults, civil war and insurrections. One can see the case of Syria, Afghanistan, Cairo, Somalia etc.

**Economics:** Politics may, in certain situations, impact economic policy, such as interest rate decisions that affect asset values and business costs.

#### 9.4.2 MANAGING POLITICAL RISK

Global risk assessment involves more than estimating the probability of political risks occurrence. Political risk must continue to be monitored, even after a project has been accepted and implemented. An MNC can draw up a plan that reduces the probability of political risks occurring. They should also determine what measures they take if political risk events happen.

If political risk is a factor, then MNC needs to structure its investment so that its cash flows are not affected by political risk developments.

The effects of one such incident are unlikely to be limited or short-lived on an Indian exporter's sector and can spill through the entire enterprise. Following are some measures to mitigate the risk that arise from such events.

- The MNC can make it difficult for a government to take over without its cooperation through the use of unique supplies from its headquarters or uniquely difficult technology, without cooperation from the MNC.
- If MNCs will completely protect against all future risk incidents and fully recover their damages, it is appropriate to take political risk into consideration by keeping the insurance cost away from the planned cash flows.
- Think about diversifying your international assets to keep the whole danger from being concentrated in one or two emerging markets. Create a transparent and existing government approach to reduce risks depending on what's in the business. Know in advance how a range of threats you should react to.
- Brief customers, suppliers and agents on your contingency plans to address unforeseen policy risks and coordinate your risk response where necessary.
- Recovery from an unfavourable political occurrence is generally quicker and smoother if you are informed and can plan your reaction with your key players in advance.

Emerging markets trading can be overwhelming and it is therefore important to set in place a detailed plan and policy to minimize risk from the outset.

#### Political Risk Examples

The company faces numerous environmental factors. In addition to market-based causes, political decisions or changes can also affect businesses seriously.

- For instance, government policy decisions on taxes, the value of currencies, trade tariffs or barriers, investment, wage levels, labor laws, environmental regulations, priorities for development, can affect business conditions and profitability. Similarly,

a business may have non-economic factors. Investors of foreign businesses and accounts of hedge funds should bear global uncertainties similarly.

- There have been many changes to the economic practices since Donald Trump assumed office in the United States in 2015. Import duties have been levied on Chinese commodities mainly, triggering a trade war which has disrupted the economy of the Chinese companies and placed Chinese investors under much further strain.
- The entry into various parts of Europe of Asian immigrants causes a disorder in the continent's socioeconomic structure. As a consequence of the abundance of cheap labour from other countries there could be a rise in local labor unemployment. This condition may therefore be business friendly, although creating difficulties for the local resident of the region.

Political risk can influence a company's operations and profitability as directly and as quickly as any economic, physical or market risk factor.



### *Check Your Progress- A*

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1. Which one is in the external risk category?
  - a. Delays in projects, under-run budgets, urban movements
  - b. Regulatory, currency changes, taxation
  - c. Natural disasters, regulatory, design
  - d. Inflation, design, social impact
2. A modern, new development initiative was launched which has never been carried out before. Which form of contract does the owner choose to exclude the biggest potential risk?
  - a. fixed price
  - b. Cost plus fix fee
  - c. Cost plus incentive fee
  - d. Time and Material
3. The control risk process does not have one as an output. What's that?
  - a. Work Performance Information
  - b. Change Requests
  - c. OPA updates
  - d. Risk Register

4. Which of the following tools and techniques is not used in the process of Identify Risks
  - a. SWOT Analysis
  - b. Diagramming Techniques
  - c. Checklist Analysis
  - d. Risk Categorization
5. A country that analyses the probability of: (1) an uprising, (2) the election of a socialist nationalizing government, and (3) the stability of per capita income, is engaging in:
  - a. Country risk analysis
  - b. Factor risk analysis
  - c. Political situation analysis
  - d. Consumer purchasing power analysis
6. In a fundamental PEST system, one of the following considerations should not be examined?
  - a. Environmental factors.
  - b. Technological factors
  - c. Economic factors
  - d. Socio cultural factors
7. Which of the following factors are not included in th PEST technological assessment?
  - a. S& T infrastructure
  - b. Governmental R&D levels
  - c. Consumer attitude towards technology
  - d. Technological transfer channels
8. Which of the following statement is true?
  - a. A tax increase can never be considered a political risk, nor is it ever the result of political forces
  - b. Government measures to improve the competitiveness of national enterprises are one form of political risk.
  - c. A political risk is confined to countries of the third world.
  - d. All the above
9. Which of the following factors are not included in the PEST technology assessment?
  - a. S&T infrastructure
  - b. Government R& D levels
  - c. Consumer attitudes towards technology
  - d. Technological transfer levels

10. Which of the following statement is true?
- A tax increase can never be considered a political risk, nor is it ever the result of political forces
  - Government measures to improve the competitiveness of national enterprises are one form of political risk.
  - A political risk is confined to countries of the third world.
  - All of the above.
11. Which of the following statement is true?
- In 2004, Government X supported producers around the globe with fair incentives, giving special care to countries in A region. This is a micro-political risk scenario.
  - Communist governments' expropriation of assets is micro-political risk
  - In 2006, German widget manufacturers lobbied their government to charge import tariffs for widgets. This is a case of macro political risk.
  - All the above.
12. What are the causes of political risk?
- New international alliances have been formed.
  - Nationalisation on the rise
  - Religious groups competing with each other
  - All of the above
13. Which of the following statements is false?
- Current governments are a political risk source
  - Teacher unions may be a political risk source
  - A source of political risk is consumer tastes
  - The World Bank could be a political risk source
14. Why would a company enter into negotiations with a host country?
- To transfer knowledge
  - To have access to natural resources.
  - To take advantage of local multipliers.
  - To increase employment in the host country.
15. What does not make an MNE aware of when dealing with a foreign government?
- Its policy goals.
  - Their power levers.
  - Their culture
  - None of the above.
16. Which of the followings are the world's least corrupt countries?
- Japan, the US and Germany.
  - The United States, Canada and the UK
  - New Zealand, Finland and Denmark.
  - India, Australia and China.
17. The fact that the name Bridgestone of Japan is not surprisingly foreign in English-speaking countries is an indication.

- a. Strategy nationalization
  - b. Strategies for indigenization
  - c. Integrative techniques.
  - d. Techniques of localization.
18. A company which maintains key positions in the hands of domestic countries or third country nationals participates in order to prevent possible nationalization:
- a. protective techniques.
  - b. mixed strategies.
  - c. Ethnocentric techniques.
  - d. integrative techniques.
19. Examples of political risk actions include the following
- a. Restrictions on import and labor
  - b. price and tax controls
  - c. local-content laws and exchange controls
  - d. all of the above
20. Multinational business corruption:
- a. are generally more competitive than those without corruption.
  - b. are potentially less creative
  - c. Can grow in global markets more rapidly
  - d. Are always small- and medium-sized enterprises
21. What is an input to assess the risk process?
- a. Project management plan
  - b. SWOT analysis
  - c. Risk related contracts
  - d. Technical performance measurements
22. What is NOT an method or strategy for detecting risks? process?
- a. Data gathering
  - b. Data analysis
  - c. Risk categorization
  - d. Prompt list
23. Which is a method or methodology to carry out qualitative risk analyse?
- a. Risk response analysis
  - b. Prioritizing Risk
  - c. Project management information system
  - d. Risk categorization
24. What is a tool or technique used in the risk monitoring process?
- a. Audits
  - b. Interpersonal and team skills
  - c. Expert judgment
  - d. Decision making
25. Which of the following is not a factor in the assessment of project risk?
- a. Transference costs

- b. Risk probability
  - c. Value at stake
  - d. Risk event
26. You just found out that a risk should be transferred. Under which systems are you concerned with risk management?
- a. Identify risks
  - b. Plan risk responses
  - c. Risk monitoring and management
  - d. Carry out quantitative analysis of risk
27. What is the heuristic description of the following?
- a. A powerful data calculation to model risks
  - b. A simulation used to model risks.
  - c. A rule of thumb.
  - d. a calculation for a weighted risk measure

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## 9.5 SUMMARY

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Project Manager needs to be aware of the cultural, organizational and social environment of the project. To understand this environment involves identifying the project stakeholders and their ability to affect the outcome of the project. Once the environment has been understood, project manager can deal with it to ensure that it has a positive effect on a project. This chapter discussed some of the internal and external environment factors that are to be analysed by the project manager such as: the impact of organizational structure and the impact of socio-economic factors on the project. This chapter also discussed various aspects of project phases and project life cycles.

In both the private and public sectors, regulatory compliance has been defined. The regulatory rulebook has continued to expand, following recent deregulation efforts. In several primary sectors, including financial, automotive and health care, regulatory risks have significantly increased. Managers need to understand not only the need to comply with the regulations but also the need to be able to handle and reduce compliance risks by implementing processes is important.

Country risk relates to the possible detrimental effect on the cash flows of an MNC from the economic and political situation of a region. Political risk is a particular case of nation risk, where a government or regulation impacts the cash flow of a business. Country risk and political risk are also closely related to a government's ability and willingness to repay its external debt holders. The risk of failure to pay is often known as the sovereign risk. Corruption, civil strife, and war are also risk factors. In order to assess country and political risks, the quantitative and qualitative information obtained from experts is used. The assumption that currency and political risks sometimes exist simultaneously is most frequently overlooked in political risk research. MNCs should not only take into

consideration political risk in capital budgeting, but should also take certain measures to minimize the impact of political risk incidents.



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## 9.6 GLOSSARY

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**Accelerated depreciation:** The opportunity of the tax authority in different countries to speed up the depreciation schedule for a company's assets so as to benefit from fiscal protection.

**Acceleration clause:** Condition allowing borrowers to seek immediate payment of the overall debt of the SPV. This will occur especially if the project fails and then if there are other default occurrences set out in the credit agreement.

**Administrative risk:** Possible project consequences due to non-compliance, Public administration delays or decisions.

**Advisor:** Sponsor hired specialists for the purpose of providing advice to setting the scale, timing, risk profile and mixing of a contract as to make it acceptable for all the lenders

**Arranger:** The bank or community of banks that play a significant role in arranging a loan. Arrangement involves determining the amount and contract Conditions for lending and corporate loan syndication.

**Bullet payment:** One-time debt repayment, often following no or low loan repayment.\

**Business disruption:** The risk and the consequent impact of third parties' suspension of their business activities.

**Business plan:** This paper translates the data collected into numbers to evaluate the impact of various variables on the cash flows, revenues and asset structure of the project company, which is an integral part of the information memorandum.

**Buyer:** Counterparty that buys SPV production. Generic purchasers, who are the domestic sector or an overseas buyer, may choose to buy the whole selling of SPV production. There are also generic purchasers.

**Business Risk:** Variation in the earning of the firm due to changes in its normal operating conditions.

**Cost of Preference capital:** The discount rate that equates the net proceeds from the preference capital issue to the payments associated with it like dividend payment and principal payments.

**Cost of non-conformance:** These are the costs that are incurred for improving the quality of a product that has fallen below the desired quality level. These costs include repairs, reworks, complaint handling. Etc.

**corporate loan:** Financing given to a new, often utilized, up-and - coming enterprise with little clear connection between the loan in dispute and whether such funds are spent.

**Country risk:** Country risk refers to the larger notion of the extent to which political and economic turmoil affects issuers' securities in a given country. It also refers to the risk of foreign governments defaulting on their bonds or other financial commitment is country risk.

**Covenants:** In an indenture, or any formal debt agreement, it is a promise that certain activities or thresholds will be met or not carried out. Positive agreements force the company to make certain things; vice versa, negative agreements prohibit the company from doing others.

**Credit agreement:** A financial agreement containing contractual terms negotiated with the lenders is summed up in a legal document.

**Credit enhancement:** Any guarantee that a third party gives a borrower so that its credibility is increased. Quite much in the context of an asset securitization pledge.

**Credit risk:** The possibility of one of the parties participating in a project financing initiative failing to meet its commitments.

**Critical analysis:** It an activity whose total float value is zero.

**Critical path analysis:** It is a network analysis technique used to predict the project duration by finding out which sequence of activities (the critical path) has the least amount of scheduling flexibility.

**Cumulative Reports:** They are reports that present the history of the project, from its inception to the ending of the current reporting period.

**Data Tables:** These are the statistical tools used to collect and present data in a systematic way.

**Decision Tree Analysis:** It is used in complex situation when sequential decision are involved and when these decisions can be taken only after the happening of an uncertain events in future.

**Documentation bank:** The bank responsible for drawing up documents on a given loan correctly.

**Dummy activity:** An activity of zero duration that is used to represent the logical relationship in the network diagram is called a dummy activity.

**Exchange rate risk:** This risk rate occurs if some or all of the financial flows in the project are shown in different currencies from the account of the SPV.

**Export credit agencies (ECAs):** Organizations supporting exports from their country by using direct loans and insurance policies for importers.

**Finance documents:** The legitimate implications of the contract are recorded. Funding documents are compiled by the lawyers of the arrangers and negotiated with the lawyers of the project company

**Fixed-price turnkey contract:** Construction deal for a plant dependent on a fixed price charge. This is a way to transfer construction risk to SPV sponsors and lenders.

**Force majeure risk:** The probability of non-performance is triggered by incidents outside both parties' control. These events are either ‘acts of God’ or political risks

**Free Float:** This is the amount of time by which the completion of an activity can be delayed beyond the earliest finish time without affecting the earliest start of a subsequent activity.

**General Audit:** It is usually a brief review of the project, carried out within a limited time period and with only a few resources.

**Horizontal Communication:** It is the exchange of information between the project manager and his/her peers – functional managers, other managers, the client’s representative on the project, and other individual in similar management positions.

**Investment risk:** Investment risk is characterized as the possibility or vulnerability of failure rather than anticipated benefit due to lower securities fair prices.

**Lead Manager:** a financial organization responsible for the management of the sale of new bonds or shares in a company or loans jointly made by several banks.

**Loan drawdown schedule:** Sequence of existing debt borrowings. In project finance, the loan drawdown schedule is often contingent on plant construction milestones.

**Loss carry forward:** The ability to offset the profits of this year against taxable profit in the upcoming years.

**Node:** It’s a time orientated reference point that signifies the start or end of an activity.

**Numeric selection model:** This is a project selection model that uses numbers as inputs to select a project.

**Optimistic Time:** Optimistic time is the minimum amount of time within which an activity can be completed. It is possible to complete an activity within the optimistic time only when the external environment is extremely favourable.

**Over all change control:** It refers to managing the factors that bring about changes in such a way as to make sure that the changes are beneficial to the project.

**Project Auditing:** It is a process of detailed inspection of the management of a project, its methodology, its techniques, its procedures, its documents, its properties, its budgets, its expenses and its level of completion.

**Project control:** It is the process of collecting information related to the performance of the project system, comparing it with the desired level of performance and taking corrective action to decrease the gap between the actual and the desired performance levels.

**Project cost:** The project cost is the sum of all the costs of the activities associated with the project.

**Project Network Diagram:** It is a schematic representation of the project activities and the **logical relationship (dependencies) among them.**

**Project Overview Statement (POS):** It is a document that describes the scope of a project.

**Project Phase:** It is a collection of related project activities, which result in the production of one or more major project deliverable.

**Project Plan:** A formal, approved document used to manage and control project execution.

**Project Risk Analysis:** It is the analysis of the outcomes and probability that certain undesirable events will happen and its impact on acquiring the project or procurement objectives.

**Project Risk Management:** A subset of project management that includes the processes concerned with identifying, analysing, and responding to project risk. It consists of risk identification, risk quantification, risk response development, and risk response control.

**Project Specification:** They are the set of rules and regulations under which the objectives of the projects are met.

**Project stakeholders:** An individual, group or authority involved in or affected by the project activities and may even act against the project if their needs are ignored.

**Project status Report:** It is a report mentioning the status of achievement and deviations from the resources that are spent and the plans that are scheduled.

**Pure Project:** A Project is said to be a pure project if the unrecovered investment balance is either negative or zero throughout the life of the project and zero at the end of the project.

**Quality Assurance:** It is the process of evaluating the total performance of the project regularly, in order to ensure that the project conforms to the quality standards.

**Q- Sort technique:** It is a project evaluation and selection technique used to prepare a list of priority project.

**Risk Averter:** A person who always wishes to avoid risk.

**Risk Avoidance:** A risk management response technique aimed at eliminating the cause of a risk to avoid the risk.

**Risk identification:** It is the process of determining which risk events are likely to affect the project.

**Risk Management:** A process by which risk factors are systematically identified, assessed and provided for.

**Risk Mitigation:** A risk management technique aimed at reducing the loss in the case of a risk by taking the preventive measures.

**Risk Quantification:** It involves assessment of the range of risks associated with a possible project outcome.

**Risk seeker:** He/she is a person who wishes to accept the risk.

**Risk transfer:** The risk response method aimed at transferring the liability for risk to a third party. But the scope for this model is often limited as the financial risk only can be transferred.

**Risk Symptoms:** These are also called triggers. These events are not the actual risk events, but they reveal the increasing chances of risk.

**Risk:** The possibility of an outcome being different from the expected. It is a situation where the possible events are known but which of those will actually happen is not known.

**Simulation:** It involves imitating the behaviour of some situation or process by using a similar situation in order to study the characteristics of the variables in the situation.

**Sinking fund factor:** The amount that has to be invested at the end of every year for a period of 'n' years at rate of interest 'k', in order to accumulate a certain sum of money at the end of the period.

**Slack:** Slack is the difference between the latest event time and earliest event time.

**Social Benefit:** It refers to the positive impact of a project on society, like increase in employment opportunities, rise in per capita income etc.

**Systematic risk:** This risk arises from the existing market situation. This risk is also called market risk.

**Term Loan:** A loan with a maturity period of usually three to five years taken for purchasing fixed assets or to renovate business premises.

**Variance Report:** These reports show how the delivered output/activity deviates from the plan.

**Weighing System:** It is a process in which all the information pertaining to the qualitative aspects of the vendor is qualified.

**Weighted Average cost of capital:** The sum of weighted values obtained by multiplying the cost of each source of financing by its proportion in the capital structure.

**Work Breakdown Structure:** It is a deliverable-oriented grouping of project activities that organizes and defines the total scope of the project.



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## 9.7 ANSWERS TO CHECK YOUR PROGRESS

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### Check Your Progress –A

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

- 17. c
- 18. a
- 19. d
- 20. c
- 21. a
- 22. c
- 23. d
- 24. a
- 25. a
- 26. b
- 27. c



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## 9.8 REFERENCES/ BIBLIOGRAPHY

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## 9.10 TERMINAL QUESTIONS

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- Q1. Explain and discuss in details
- (a) Country Risk
  - (b) Environmental Impact Assessment (EIA)
  - (c) Political Risk
- Q2. What are the Government's guidelines and requirements for controlling the environment from pollution while clearing the new projects?
- Q3. Discuss about the Regulatory clearance process and who are the authorities to be approached in Environmental clearance in this connection.
- Q4. Please summarise the total functions and process of the Regulatory clearance and follow up for the compliance after the project is approved for execution.
- Q5. There are many provisions as per Government Acts regarding the environment pollution control. Enumerate these.

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# UNIT10 RISK MITIGATION METHODOLOGIES FOR PROJECTS

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## 10.1 Introduction

## 10.2 Objectives

## 10.3 Risk Planning and Management

## 10.4 Risk Management Tools for Mitigating Financial Risk

## 10.5 Summary

## 10.6 Glossary

## 10.7 Answer to check your progress/Possible Answers to SAQ

## 10.8 References

## 10.9 Suggested Readings

## 10.10 Terminal and Model Questions

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## 10.1 INTRODUCTION

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As a country we had grown since independence systematically with the Five-Year Plans for economic development. The progress is in technology, infrastructure, economic and social development. But we had a huge population growth that needs large infrastructure and resources that needs to grow with investment support from the financial institutions and investors. Before investing funds all the investors wish to eliminate risk from the project and mitigate same in the future. In developing country it's impractical to rely only the funding by the government. Sources of funds for such investments include collection of taxes, through direct and indirect taxes. Investing funds of public ask for taking risk management of project to be of utmost importance. For this the government shares its risk with private entity through the Public-Private Partnership (PPP), which is invited to share risk and return of project financing. In this way the private sector plays a crucial role in the financing and development of the infrastructure.

Projects should consider the 'force majeure'; it means that the responsible entities at times don't take the responsibility for the inability to perform due to certain unanticipated events which are beyond their control. Project finance bears such force majeure risks due to the complex transactions, parties involved, varied interest of stakeholders, nature and time for construction, technological risk, performance related risk in future, geographical distances

between production and the market and the transportation of the raw material to the production unit and supply of finished goods to the sales counter.

Due to these reasons, there is no possibility of exactly two similar projects with same risk management and mitigation. So, a new risk management and mitigation strategy is to be adopted for each project financing. The basic risk factors associated with the project financing are;

- Deciding the financing structure
- Nature and viability of the project idea
- Socio-political Risk of the country
- Economic risks as associated with the country of operation

The risks of such nature related to commercialization of the project can be found in the planning, procurement, construction, commissioning and performance of the projects in future. Financial risks can arise due to the cost overruns, which can be due to macroeconomic factors like inflation, currency rates etc. we would read about macro-economic factors.

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## 10.2 OBJECTIVES

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After reading this you would be able to understand:

- Understanding the risk mitigation for a project.
- Understand the risk mitigation at the construction stage through Project Financing.
- Understand the risk mitigation at the operation stage through Project Financing.
- How project contracts help in risk management

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## 10.3 RISK PLANNING AND MANAGEMENT

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There are various reasons for risk in the project financing. Though the project managers consider risk of all types during the project financing but still the presence of uncontrollable factors makes the project financing risky. At this juncture we need proper risk management planning. This planning is not one-time effort but an ongoing procedure for risk assessment and management with the change's scenarios in the environment.

In the risk planning we have to consider the major risk factors involved and management includes mitigating the risk as and when discovered. For the risk mitigation we incorporate planning for the identified risks and mitigate risks through:

- Identification and characterization of the risk factors during the planning stage and even at the later stages of the project
- Identification of common causes based on historical data and expertise
- Suggesting alternative mitigation strategies, tools and techniques for
- such identified risks
- Prioritization and ranking of the risk mitigation alternatives
- Selection of resources for the mitigation alternatives
- Communication of the risk planning and management to the decision makers and the implementers

This kind of standardization for the project helps in keeping the project as planned. By this the investors can expect the successful results from the project. Though this whole phase takes place prior to the implementation and construction of the project, but risk has to be mitigated with the changing business scenario to make it profitable for the investors and the stakeholders. Even it is continued post completion of the project to help the future planning of similar projects.

By proper risk management ability the management/ organization can take the advantage of opportunities in the external environment. To make it more cost effective it needs to reduce the risk factors including cost or loss to the project. Cost had a negative impact on the project by means of loss of resources specifically man, machine, time, equipment, money etc.

### **10.3.1 SORTING RISK FOR MITIGATION**

There are various controllable and uncontrollable risks that a project had to bear and need important time and efforts of the decision makers. But a well begin risk management yields profitable results for the project in future. A successful Risk Management Plan is systematically divided into following:

- Risk Management Process for identification of risks, their proper analysis, responses and monitoring
- Identification of Role and Responsibilities of different stakeholders
- Risk Categorization
- Risk Impact Analysis
- Tools and modus operandi for risk management
- Documentation for risk management and communication

Risk management process comprises of four major steps:

- a) Risk identification
- b) Risk analysis
- c) Development of action plan for risk management
- d) Monitoring and control impact of risk

Risk identification is important as it can be eliminated or at least reduced to the least level by the decision makers. But many of the risks are not identifiable and found to be difficult for mitigation specifically the high impact and low probability risks. Due to this cause the role of risk manager doesn't ends at once during the planning stage but lives throughout the life of the project and beyond it for next planning.

Risk Breakdown Structure is created to group all the risks based on the opportunities and threats for the project. By these structures the decision makers are able to classify and group risks together under different categories of risk. The main categories of risks associated with the project financing include like:

- Designing and infrastructure
- Business expansion and diversification
- Regulatory norms at national and international level
- Political supports and hurdle
- Standards and other norms
- Change management at organization level
- Cost escalation and its impact
- Customer satisfaction
- Staff training and recruitment
- Resources and procurements
- Currency rates and investments
- Technology and patents
- Vendors development and
- Distribution channels

The other step after the identification is to control the risk or to take important steps to reduce and manage the impact of the happening of the risk for the project. Organization tries to find out the precise timing of the occurrence of such risk so that the impact can be reduced. Otherwise, the impacts of uncontrolled risks are more costly and expensive for the organization, and it also affects the profit bottom line.

As we had understood in the previous units that the project risk can be divided into two phases:

- 1) Construction phase risks, and
- 2) Operations phase risk

We will now discuss these risks in length in the following part of the unit

### **10.3.2 RISK MITIGATION AT CONSTRUCTION STAGE**

Sponsors, procurers, governments, contractors, lenders and feedstock providers of the project are at major risk during the construction stage. So the decision makers use due diligence in deciding about the risk factors and how to mitigate them. For this they use different tools and techniques like Strength Weakness Opportunity and Threat (SWOT) analysis to be more specific about their strength and weaknesses. If they found that the risk can be mitigated through contractual agreements than they prepare accordingly.

Generally, at construction phase following risks are associated:

- 1) Delay in completion:  
Projects sometimes are not been able to completed as desired and projected due to certain unavoidable reasons. To mitigate such risk the methods adopted by the project manager is to put an experience and reliable contractor/ construction company. For this the companies assign it to the most experienced and strong construction company. The clause for imposing financial penalties in case of any discrepancy or delay in the delivery of project also acts as completion delay risk mitigation. So if a company loses due to the delay from the contractor's side, the losses are collected by imposing financial penalties on the party responsible for such losses.
- 2) Delay in completion of support infrastructure:  
As per the planning the role and responsibilities of parties involved in the project are pre decided. In government is involved as a party to the Public Private Partnership the support system is provided by the state or the central government. So such supplementary support provided helps in the proper operations of the project. In case when such supplementary support is not ready on time, then the risk is to be borne by the government as per the partnership agreement.
- 3) Cost overrun:  
This is one of the most uncontrollable factors of a project's risk management. Experts and consultants are used by the lenders of funds to judge the competency of the project and its ability to yield result on time. Funds are engaged as per the project planning and management. If funds are arranged at random then its generally costly for the project and it reduces the profit from the project. To mitigate such risk the

lenders are paid extra to keep on standby and use the debt and equity for such situations.

4) Force Majeure

In case of such risk the mitigation strategy is to extend the time and provide relief from such liability. Insurance is also used to mitigate such risk to provide financial protection to the project and its investors.

5) Sponsors credit risk

It's the lenders that assess the credit worthiness of the sponsors and cover the sponsor's equity commitments as strategy to mitigate sponsor credit risk from the project financing. Lenders try to mitigate risk in the project financing so that the sponsors are always in position to bear the risk in all the conditions.



*Check Your Progress- A*

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**Q1. Discuss how risk planning and management is not one time effort**

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**Q2. Discuss Risk Management Plan and Process**

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**Q3. MCQs**

- a) Risk Management Plan doesn't include
- i. Role and Responsibilities Identification
  - ii. Risk Categorization
  - iii. Risk Impact Analysis
  - iv. All of the above
- b) Risk management process comprises of:
- i. Risk identification
  - ii. Risk analysis
  - iii. Monitoring and control impact of risk
  - iv. All of the above
- c) Project risk can be divided into:
- i. Construction phase risks
  - ii. Operations phase risk
  - iii. None of the above
  - iv. i) and ii) both

**Q4. Fill in the Blanks with appropriate word or words.**

- a) PPP is \_\_\_\_\_ .
- b) SWOT is \_\_\_\_\_ and \_\_\_\_\_
- c) In \_\_\_\_\_ risk the mitigation strategy is to extend the time and provide relief from such liability.
- d) \_\_\_\_\_ \_ try to mitigate risk in the project financing so that the sponsors are always in position to bear the risk in all the conditions.

**10.3.3 RISK MITIGATION AT OPERATION STAGE**

As we had discussed earlier that the project needs funds and risk is to be mitigated at the construction as well as operational level. By this way the regular supply of raw material is ensured, proper operations and regular maintenance is made so that the sales don't suffer.

1. Raw material supply:

To ensure the smooth production at the production unit, the organizations go for long term agreements with the credit worthy suppliers. These suppliers take care of all the hassle related to supply of raw material on time at the site. To make sure the even supply of raw material as per demand at the site of production is established near to the natural source of raw material. Otherwise the clusters of the ancillary units substitute for such demand of raw material and other support to the main production unit.

## 2. Maintenance and Operational support.

For the turnkey projects, the technical support is provided by the turnkey operator or establishing organization. In other cases the regular maintenance of operational units is made to mitigate the operational risk. For this the competent and experienced operator are agreed with contract for maintenance at regular intervals. This contract includes the clause for the compensation for damages due to poor performance or an other damage to the negligence in the maintenance services. In case of equipments the maintenance support is provided by the supplier of equipment on such contracts for the pre specified periods.

## 3. Cash flow

Need for the significant operational and financing level is the need for each project. To ensure regular supply of funds for the project, the cash flows are predicted. For making the projects risk proof prototype the cash flows are projected based on the scenarios considering the conditions like higher sales and lower sales, increased support for raw material and decreased supply too. For risk mitigation the models are audited by the independent auditors for the projects independently. Presence of cash reserve accounts helps the organization in bearing the deficient in case of cash flows.

## 4. Currency rates:

For risk mitigations related to the fluctuations and change in the currency rates the firm goes for risk hedging techniques. So for this they match the currency of revenues with the debt financing. Swapping of currency rates is used if the projects are operating in multi countries and at different locations. If the government is one of the party in this PPP model that the government as per contract the government is liable to born such currency risks.

## 5. Interest Rates:

Interest rates are considered during the contract agreement and hedging is based on the lenders requirement. Mitigation of such risk is dependent on the timely achievement of the project and methodical cash inflow as projected during the planning and management of the project.

Proper Project financing acts an effective tool in financing projects that require long term engagement of funds. Financial due diligence and risk modeling help in estimating the cash flows from the projects and mitigating revenue risk. It's helped by clearly identifying the demand and projecting for the future.

But with this the analysts try to invest in projects that are located in economies with stable political system and where the risk factors are identifiable. Political risk is mitigated by attracting financial products from the multilateral and export credit agencies. With their smart application and data bases they can judge the reliability and prospects of the project. Generally lender of funds look for pre established bankable projects, for this they don't hesitate for long term financing. And allowing high leverage in capital structure as its easier to project cash flows in such projects.

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## **10.4 RISK MANAGEMENT TOOLS FOR MITIGATING FINANCIAL RISK**

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Post financial crisis of 2007-2008 the world had become more complex and completion had severely increased for every business as part of the business world. Every industry has to design its unique strategy to overcome such complex and risky situations. All organizations, ranging from large to small, public or private, for profit or not for profit organization

had to accept the vibrant and tough environment conditions. As we had seen the external environment is uncontrollable, so organizations can design their strategies based on their internal strengths. At this juncture the effective risk management and control mechanism plays a pivotal role. For this the finance manager needs to strengthen the decision making process by proper analysis, for investments, corporate financing, management accounting, cost management. Budgeting and forecasting supported with the external financing reporting and financial statement analysis support in this process for having the effective overall decision making, internal control and execution.

Organization wishes to have sustainable development, but fierce completion forces for innovative product development, produce or procure decisions, funding at internal and external level and decisions for the improvement or replacement. But for all such decision organization have to take risk. So the risk management and its mitigation is important for both the projects; at national level and international level. It's the risk intensity that increases due to lack of adequate business environmental information and expertise.

Broadly we have understood that the risk management process includes the following key steps: 1) Identification of risk, 2) Risk mitigation and 3) Loss reduction and control.

The risk characteristics are different for different projects, so it's difficult to assess risk for same projects at different locations. Due to this reason, the risk assessment and its relationship amongst similar projects become tough. But it's very costly to avoid or ignore risk irresponsibly and taking unrealistic decisions. So on proper analysis it's very much needed to decide about the tools and techniques for risk mitigation. So during the capital budgeting it's to be decided whether the organization wishes to bear risk, partially mitigate it or get it reduced to nil by avoiding this risk taking. Based on the nature of risk it can be handled differently; by bearing risk and reducing it internally, sharing of risk through different tools and risk transfer by involving different organizations and specialized institutions. As part of corporate finance we had learnt that the most suitable tools and technique would be the one which is as per the mission and vision of the organization. It can be affected by the risk taking capability of the organization, stage in the business cycle, consultants and other expertise, cost effectiveness of the tool and technique. By this way the organization wishes to chart the cost-benefit analysis from the adoption of such tool and technique. They have to combine the risk probability analysis with the risk impact assessment to get the decision making accurate and manage them effectively.

When we discuss about the type of risks we can broadly divide them into:

1. Market Risk
2. Equity Risk
3. Interest Risk
4. Exchange Rates
5. Commodity Prices
6. Credit Risk
7. Customer Risks
8. Suppliers Risks
9. Partner Risk
10. Financing/Liquidity Risk
11. Financing
12. Market Liquidity
13. Cash flows

These categories of risk can be mitigated by either sharing them or transferring them to the external other parties.

Risk sharing of risk at international level involves following options:

1. Forwards: in India forwards are regulated by the Forward Contract (Regulation) Act, 1952. As per the definition 'a forward contract ensures the delivery of goods that is not a ready-delivery contract, so are the contracts that do not come for immediate delivery.

Obligation to serve such contracts depends on the position of the buyer, i.e., long or short. In case of Long position the person obligates purchasing of the underlying instrument at some future date at agreed price on the date of making of the contract. At this juncture the important point is to make the correct pricing of the instrument on Day 0. Accuracy in prediction decides the benefits or loss of the investor, it would be beneficial for the buyer if his predictability is accurate for the future price of the instrument. While in case of Short position the person is obliged to sell the underlying instrument at some future date at the pre-decided price. For such position the benefit will occur if the prices decided on the Day 0, are better than the price of the future which are decided by the market conditions.

Trading of forward contracts doesn't take place as an organized instrument like Future and Options who are traded on the derivatives exchanges. Forwards are very simple products and customized as per the need and demand of the parties involved. Generally the contracts are made by the large institutional parties due to the bundling of significant credit risk to the contracting parties.

2. Futures: Contrary to the customized forwards the future contracts are standardized contracts. These futures try to fulfill the lacunas of the forwards as being traded as a standard product in the organized stock exchanges. So the stock exchanges not only acts as the guarantor for the agreement but also asks for the margin money to be maintained by the parties involved to avoid any party default risk in future.

They are similar to the forwards in the sense that for long position the obligation is there to purchase the underlying asset in a specified quantity and grade agreed on Day 0 at a future price as per the contract. While for the short position the obligation is similar to forward to deliver the underlying asset to the buyer at a specified quantity and grade agreed on Day 0 at a futures price on future date.

3. Swaps: Another kind of derivative instrument available for risk hedging is known as swaps. In these kinds of instruments the exchange of future cash flows takes place between the two counter parties. These parties can enter into such contracts for the equity, commodities, debt instruments, currencies and credit markets to hedge the risk and fulfill their corporate needs.

In a swap contract the obligation is to exchange the cash flows at a pre decided and agreed rates for a specific duration. So the swap may include onetime exchange of

cash flow or multiple times in future as per the agreed contract conditions. So a swap can take shape of series of forward instruments maturing on different dates.

4. **Joint Ventures:** As a risk sharing mechanism organizations opt for the Joint Ventures, here a separate entity comes into existence different than the parent organizations. In this way the parent organizations don't get affected adversely due to the formation of specific new entity, who comes into existence for specific purpose and sometime its existence period is pre-decided. In some cases they raise funds for themselves by issuing equity in the market.
5. **Purchase of Credit Guarantees:** Project finance typically includes various elements including payment and repayment of loans, currency rates and interest rate provisions, issues relating to the lenders' protection, representation and warranties and other miscellaneous provisions like jurisdiction etc.

The purchase of credit guarantees acts as a risk sharing option between the parties involved.

6. **Credit derivatives:** are the bilateral financial contracts that specifically segregate the credit risk of the underlying instrument and transfer that risk between the counterparties in the derivative market. In simple terms it acts as an insurance that requires regular payment to protect against specific risk that occurs in case of specific events, and they are rare in nature. The two parties involved in this transaction are protection buyer and the protection seller. The buyer pays a premium that includes a fee to the protection seller in lieu of the protection against loss in case of the occurrence of the pre-agreed credit risk event.
7. **Currency derivatives:** In Indian forex market currencies are traded at spot market and derivatives market. At the spot market the currencies are traded at the market rates and settlement takes place two business days ahead for settlement. While in the derivatives market the currency is traded through currency forwards, swaps and options.

The most promising instrument used in the currency derivatives market are the forwards and the foreign exchange swap, like INR-USD. These instruments help in risk mitigation against currency risk in the market.

While the Risk transfer needed when the parties are beyond the national boundaries use the following options:

1. Options: we had understood the other derivatives forwards and futures in above section of the risk sharing. The options are also the contracts but very different from the forwards and the futures as they limit the loss to the investors and hence helps in risk hedging by transfer of risk. As transfer of risk these derivative instruments gives the holder of the contract the right but not the obligation to exercise the contract in case of adverse market conditions.

Based on the various requirements of the holders the options available are index options, equity options, currency options, interest rate options, future options and swaptions and they all of them are traded in the organized market i.e., Stock exchange.

2. Insurance (including Credit Insurance and Liquidity Insurance) : firms entering into self insure mode incase its able to achieve the benefits of risk pooling on its own, otherwise the risk transferring takes places through the involvement of the insurance company as a third-party insurance product.  
Insurance acts as a risk transferring instrument for the project risks. It provides a win-win situation for both the parties involved as it provides benefits to both sides. For the product the insurance company creates a portfolio of risks providing risk diversification to the parties. Their expertise in the risk management through proper evaluation risk helps in transferring risks to the parties, like inspection and safety services. For this the insurance company earns the premium to diversify the risk into smaller share for the parties involved.
3. Securitization: when the securities are collateralized by the pool of assets, the process of creating securities of that nature backed by assets is known as asset securitization. This acts as a transfer of risk from one entity to the other entity. The other form of such bundling involves streaming of receivables like mortgage payments, to be sold on the capital markets as an investment option to get the future payments including the ROI (return on investment).

**Check Your Progress- B**

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**Q1. Discuss how the risk is mitigated at the operation level.**

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**Q2. What are the different types of risk associated with project financing that needs to be mitigated?**

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**Q3. MCQs**

a) For mitigating risk at operation level we need to control the Currency rates e) Interest rates

- i) Currency rates
- ii) Interest rates
- iii) Only (i)
- iv) both (i) and (ii)

b) Project finance typically includes

- i) Payment and repayment of loans
- ii) Currency rates provisions
- iii) Issues relating the lenders protection
- iv) all of the above

c) Risk can be transferred through; For swaps the parties can enter into such contracts for the equity, commodities, debt instruments, currencies

- i) Equity
- ii) Commodities
- iii) Debt instruments
- iv) All of the above

**Q4. Fill in the Blanks with appropriate word or words.**

- i. \_\_\_ rates are considered during the contract agreement and hedging is based on the lenders requirement..
- ii. Proper Project financing acts an effective tool in financing projects that require long term \_\_\_\_\_
- iii. Contrary to the customized forwards the \_\_\_\_\_ contracts are standardized contracts.
- iv. The most promising instrument used in the currency derivatives market are the \_\_\_\_\_ and \_\_\_\_\_ like INR-USD.
- v. When the securities are collateralized by the pool of assets, the process of creating securities of that nature backed by assets is known as \_\_\_\_\_ .

---

## 10.5 SUMMARY

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Uniqueness of the projects due to its nature, products, area of operation, environmental conditions and many such reasons make it compulsory for each project financing a different one as far as risk mitigation is concerned. Dynamic nature of the business environment forces to have a new risk management and mitigation strategy for each financing.

Inability of the competent entities to handle complex situations put the project financing into a tough situation. The complex situations arises due to the complexity of the transactions, number of parties involved, stakeholders interest, nature and time of construction, new technology, market conditions and infrastructure support at government level.

Our understanding for the risk management process makes it clear that there are three prominent steps to be followed to mitigate risk properly. They are 1) Identification of risk, 2) Risk mitigation and 3) Loss reduction and control.

The risk analysis is important for the commercialization of the project and it starts from planning, procurement, construction, commissioning and performance of the projects in future. A financial risk which a rises during the planning and execution of the project is due to the cost overruns, which can be due to macroeconomic factors like inflation, currency rates etc.



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## 10.6 GLOSSARY

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**INR** Indian Rupee

**PPP** Public Private Partnerships

**ROI** Return on investment

**SWOT** Strength Weakness Opportunity and Threat

**USD** United States Dollar



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## 10.7 ANSWERS TO CHECK YOUR PROGRESS

---

### Check Your Progress –A

Q3. a) iv b) iv c) iv

Q4 a) Public Private Partnership

b) Strength Weakness Opportunity and Threat

c) Force Majeure

d) Lenders

### Check Your Progress –B

Q3. a)iv b) iv c) iv

Q4 a) Interest

b) Engagement of funds

c) future

d) forwards and the foreign exchange swaps

e) asset securitization

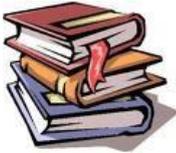


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2. Tata McGraw Hill Publishing Company Ltd., New Delhi.
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## 10.11 TERMINAL QUESTIONS

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- Q1. Comment on the various factors that contribute to the risk factor associated with the project financing?
- Q2. Why for risk mitigation we incorporate planning for the risks identification and it is mitigation accordingly?
- Q3. Comment on the sorting of risk for mitigation.
- Q4. Elucidate how risk is mitigated at operation level?
- Q5. Explain the various risk management tools for financial risk mitigation.



ISBN: 978-93-85740-29-9



MS-403-2(002866)

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**MS-403 (PART-II)**

School of Management Studies and Commerce  
**Project Finance**



**MS-403 (PART-II)**

School of Management Studies and Commerce  
**Project Finance**



**DEPARTMENT OF MANAGEMENT STUDIES**  
**Block III Financing of Projects**  
**Block IV Legal Aspects in Project Finance**

## Project Finance



### Block – III

**Block Title- Financing of Projects**

### Block – IV

**Block Title- Legal Aspects in Project Finance**

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Last accessed 15/1/2021

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**ISBN** : 978-93-85740-29-9

**Copyright** : Uttarakhand Open University

**Edition** : 2020 (Restricted Circulation)

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**Published by** : Uttarakhand Open University, Haldwani, Nainital – 263139

**Printed at** : Saharanpur Electric Press, Bomanji Road, Saharanpur

**Print Year** : 2023

**Printed Copies** : 33

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**Course Code-MS 403**

**Course Objective:** This course aims at making the student learn the tools and techniques for effective planning and management of projects.

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**Unit I Project Management: An Introduction**

**Unit II The Project Finance Markets**

**Unit III Role of Advisors in Project Finance**

**Unit IV Project Development and Management**

**Unit V Valuing the Project and Project Cash Flow Analysis**

**Unit VI Project Feasibility Studies**

## **Block II Assessing Risks in Project Finance**

**Unit VII Project Finance and Commercial Risks**

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**Unit IX Regulatory and Political Risks**

**Unit X Risk Mitigation Methodologies for Projects**

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**Unit XI Means of Financing Projects**

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**Unit XIII Working Capital Finance for Projects**

**Unit XIV Project Finance: Taxation and Incentives**

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**Unit XVII Legal Aspects in Project Finance**

**Unit XVIII Project Agreements**

## **Unit XIX Sub-Contracts and Other Related Agreements**

## **Unit XX Project Finance Loan Documentation**

## **Unit XXI Contemporary Issues in Project Finance**

### **Suggested Readings:**

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**Block III**  
**Financing of Projects**

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## UNIT11 MEANS OF FINANCING PROJECTS

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### 11.1 Introduction

### 11.2 Objectives

### 11.3 Advantages and Disadvantages of Project Finance

#### 11.4 Sources of Financing

### 11.5 Classification of Global Financial Markets from the Perspective of a Specified Country

### 11.6 Types of Capital and Debt

### 11.7 Key Points to Be Kept in Mind While Preparing an Estimation of Project Financing Requirement

### 11.8 Summary

### 11.9 Glossary

### 11.10 Answer to check your progress

### 11.11References

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### 11.14 Activity

---

## 11.1 INTRODUCTION

---

We should understand the difference between Corporate Finance and Project Finance. Both are technically different. In corporate finance the funds are raised by the company on the strength of the Balance Sheet and the creditworthiness of the promoter. Different sources of financing are evaluated so that the company can get funds at less cost and maximize shareholders' wealth.

Project finance on the other hand is useful in cases where huge projects, such as building infrastructure projects like highways, tunnels, metro systems, mining, oil pipeline development, or airports needs funding. It requires huge amount of capital. Project financing is a key method of using private capital to achieve private ownership of public services. When a company undertakes a project, it creates a Special Purpose Vehicles (SPVs).

So what is SPV? SPV means an entity set up separately from a parent company for a specific task/operation/project in an effect to protect the parent from the risks associated with the task/operation/project. SPV undertakes the implementation of the project. The financial

institutions who provide loans for these projects give primary importance to projected cash flow of projects. If the cash flow the business anticipates during the time span of the project seems to be satisfactory and beneficial to the financial institutions they invest in the project. The entire amount required for the project is not given in one time. The finances are released in instalments over the life of the project.

---

## 11.2 OBJECTIVES

---

After study of this unit you will understand the following:

- What is project finance?
- Advantages and disadvantages of project finance
- Various sources available for financing projects and structure of project finance
- Types of capital available for projects
- Important points to be noted while preparing a project financing requirement

---

## 11.3 ADVANTAGES AND DISADVANTAGES OF PROJECT FINANCE

---

### 11.3.1 ADVANTAGES

- 1) Project finance does not compel the owners of the company (project sponsors<sup>1</sup>) to repay the loan taken for the project. The reason is that the financial institutions have given loan on the basis of cash flows projections of the project.
- 2) Since project finance is off-balance sheet finance effectively, it reduces the financial leverage of the firm.
- 3) Debt is advantageous for the company undertaking the project as they don't have to issue more equity shares to raise the amount required for the project.
- 4) Project finance has tax benefits.
- 5) Risk is shared between lenders of project finance and project sponsors.
- 6) The SPV created for the purpose of raising project finance protects project sponsors from adverse political conditions in a country.
- 7) Lenders will try for successful completion of project rather than foreclosure.

### 11.3.2 DISADVANTAGES OF PROJECT FINANCE

- 1) There is complexity in risk allocation of the project. The complexity is about who should share what type risk and how much. This is of course resolved by negotiations.

---

<sup>1</sup> Project Sponsor – who may be an existing company, a developer, or a government institution or agency.

- 2) Project finance increases lenders risk if other parties to the project - lawyers, engineers and consultants do not do the assessment of the projects correctly and implement the required with due diligence.
- 3) Interest rates on project financing may be higher than on direct loans made to the project sponsor since the transaction structure <sup>i</sup>is complex and the loan documentation lengthy.
- 4) Strict lenders supervision and reporting requirements to ensure successful completion of the project.
- 5) Transaction costs are more as negotiations are time-consuming.

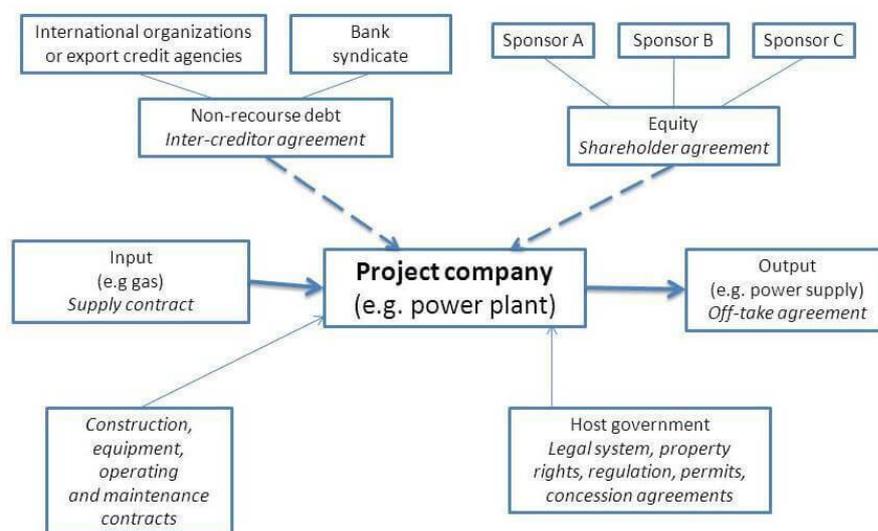
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## 11.4 SOURCES OF FINANCING

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The sources of finance can be classified on multiple facets. They can be classified based on the country of origin of the markets, based on the nature of instruments, and based on whether the funds are raised through an intermediary or directly from the market. There are two broad sources of finance or capital forms available for projects: Shareholders funds and loans funds. Shareholders' funds are equity and preference funds. Loan funds are sourced by various means – Debenture capital, loans taken for a period known as term loans, and working capital<sup>ii</sup> advances. A picture of a Power Project Finance Structure is given below:

### Typical Project Finance Structure

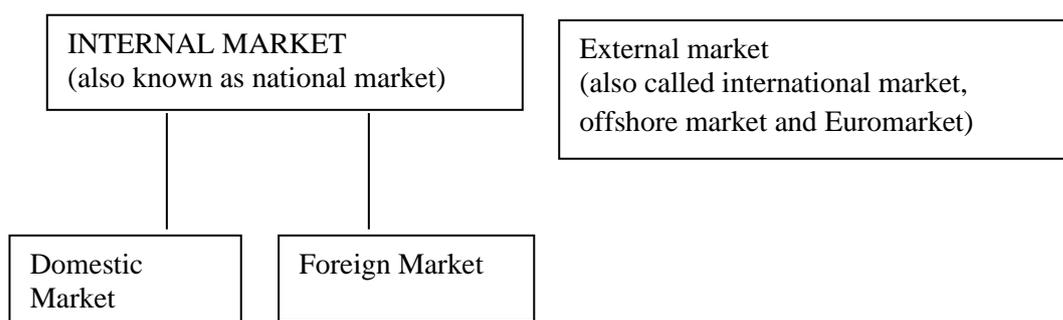


**Fig 11.1 Typical Project Finance Structure**

Source: <https://www.tradefinanceglobal.com/export-finance/project-finance/>

The usage of debt or equity as a major source of financing for projects depends on the following factors:

- 1) Cost of funds: Lenders expect lower rate of return when compared with equity shareholders. So project will work on its cash flows taking into consideration the cost of funds.
- 2) Nature of projects: Lenders are more willing to lend against projects that have more tangible assets.
- 3) Generally, as project financing is long term and is risky, lenders put in terms and conditions to ensure success of the projects as this will reduce their financial risk.
- 4) If the project sponsor requires control then large percentage of the required amount will be raised by equity rather than debt.
- 5) Market conditions also determine the option to raise project finance by debt or equity. If equity market is buoyant, project sponsor will go for more equity otherwise will opt for debt. The sources of finance can be a domestic financial market or from global financial markets.



**Fig 11.2 Internal and External Market**

Source: Frank J Fabozzi and Peter K Nevitt

---

## 11.5 CLASSIFICATION OF GLOBAL FINANCIAL MARKETS FROM THE PERSPECTIVE OF A SPECIFIED COUNTRY

---

Following is the classification of Global Financial Markets from the perspective of a specified country;

- 1) **National Market and Foreign Domestic Market:** The national market is categorized into domestic market and foreign market. The domestic market of the country trades, deals and issues securities of those companies those are resident in that country. Foreign market of a country trades, deals and issues securities of those firms that are foreign to that country. The companies directly issue securities in domestic market of foreign countries. The regulatory authority of the country in which securities are

traded frames the rules and regulation for issuing foreign security. For example, securities issued by non-Indian companies in India must follow regulations framed by SEBI. **Foreign Domestic** markets are known by various names- for example, foreign market in Japan is known as “Samurai Market”, United States foreign market is called as “Yankee Market”, and United Kingdom market is “Bulldog Market”.

- 2) **Capital from International Market or External Market:** These markets are called offshore markets, or Euromarket (please note that it’s not limited to Europe). The securities issued in international markets are not regulated by national bodies. The project company may issue an instrument for a requirement of fixed amount in a stated currency (usually denominated in dollars) named as debt instruments. The project sponsor may issue instrument for residual amount which is commonly called as equity claim. This is known as equity claim or residual claim because the amount distributed to shareholders is based on profits left after settling other payments of the company. An Indian firm can also access international markets. They can raise funds as
- a) **Eurocurrency Loans:** The most commonly used source of financing projects is External Commercial Borrowings (ECBs). The instrument used for borrowing is Eurocurrency Loan. It is a syndicated loan <sup>iii</sup>where a group of lenders agree to lend to a borrower under a single loan agreement. Eurocurrency means currency held in a bank outside the country where it is minted. For example- An Indian Company purchases technology from United States (US). The Indian Company pays in US Dollars to the US Company. The US Company deposits this amount in a German Bank. This deposit in German Bank is Euro-Dollar deposit. The German bank will use this Dollar to give Euro-Dollar loans (how to understand this concept- It is the word Euro followed by currency held eg: Dollar, Pound, Yen, Chrona and finally instrument loan/deposit). The loans are given at floating rate of interest. The rate is linked to international lending rates like – LIBOR (London Inter Bank Offer Rate), SIBOR (Singapore Inter Bank Offer Rate).
  - b) **Eurocurrency Bonds:** When projects require large amounts of loan and want to explore cheaper markets they look to debt from international debt market or Eurobond markets. These debts are known as Eurocurrency Bonds. The same meaning of Eurocurrency loans applies for Eurocurrency bonds. Eurodollar bonds are sold outside United States. Euroyen bonds are sold outside Japan. This is a bearer bond. This is payable to the person whoever holds the instrument. The lending rates in eurodebt market are lower that domestic market.
  - c) **Global Depository Receipts:** If project requires indirect equity investments in euro markets then the project sponsor issues Global Depository Receipts (GDRs). A company that wants to raise funds by GDR enters into an agreement with an international bank for holding its shares. The bank is known as depository. The bank issues claims against these shares to the public. These claims are called depository receipts. Each receipt has a claim on a specific number of shares. The currency of issue is generally in US dollars. GDRs can be traded in stock

exchanges. Ministry of Finance, India and Foreign Investments Promotion Board has to give clearances for issue of GDR as it is considered as a form of Foreign Direct Investment (FDI).

- 3) Multilateral development agencies:** are institutions, created by a group of countries that provides financing and professional advising for the purpose of development. Developed countries with surplus funds and developing countries that require funds are members in these institutions. They fund long-term loans at market rates, very-long-term loans below market rates, and through grants. Projects that are significant for economic development of a country; contribute to human well-being and promote international trade between countries find international funding agencies. Like for example European Bank Reconstruction & Development (EBRD) strategy is to promote green buildings and urban regeneration. So they will be evaluating and financing projects that contribute to their strategy. Some examples are: World Bank; European Investment Bank (EIB); Asian Development Bank (ADB); African Development Bank (AfDB).

**Project Details of African Development Bank:**

<b>ID:</b> P-Z1-FA0-162	<b>Name:</b> Supplementary Financing : Ethiopia - Kenya Electricity Highway (Kenya)	<b>Status:</b> Approved	<b>Country:</b> Multinational
<b>Sector:</b> Power	<b>Approval date:</b> 14-Dec-2018		<b>Task Manager:</b> WUBESHET ZEGEYE Alemayehu, RDGE1
<b>Total cost:</b> 21925625.7	<b>Source(s) of financing</b>	<b>Implementing Agency:</b>	<b>Location:</b> Ethiopia & Kenya
<b>Currency:</b> UAC	<b>AfDB:</b> 21925580.4	Kenya Electricity Transmission Co. Ltd	

Source: [www.afdb.org](http://www.afdb.org)

- 4) International Finance Corporation (IFC):** The institution provides funding to projects that are unable to access private sector capital markets. This is a branch of World Bank. Many projects in developing countries rely on this institution for their funding requirements.

### **An Initiative of IFCs for developing nations**

IFC created EDGE (Excellence in Design for Greater Efficiencies)—a building resource efficiency certification program—especially for emerging markets like Vietnam. IFC introduced EDGE to Vietnam in 2015, with support from the government of Switzerland’s State Secretariat for Economic Affairs (SECO) and the Hungarian Export-Import Bank, to help the building sector meet the needs of the country’s fast-urbanizing population. The program guarantees savings of at least 20 percent in energy and water consumption, as well as energy savings in building materials, leading to reductions in greenhouse gas

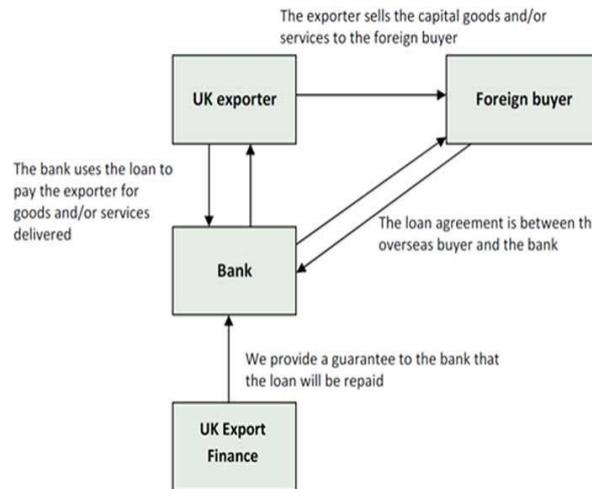
**Source: [www.ifc.org](http://www.ifc.org)**

One example given above shows the areas in which IFC offers funding for projects that create new designs in building sector with an objective of going green. IFC issues three types of loans – A, B and C. Loan A is its own account where it supplies 25% of project cost or 50% project expansion cost. The interest rate is variable or fixed. Loan B is given to other private lenders participating in the project. This is given to the private lenders as the project risks involved in some projects are greater than normal projects. Loan B acts as a motivator for private lenders to lend to the project. IFC also gives C category loan. This is a type of Quasi-equity or subordinated loans.

#### **5) Government export financing agencies and national interest lenders:**

Export financing agencies like US EXIM (Export-Import) bank, JEXIM (Japan Export Import), HERMES (is an export credit guarantee (ECG) by the German Federal Government) and COFACE (is an institution specializing in trade credit, and risk management) agreed to lend for exports under Berne Union convention. Export credit can be Buyers credit or Suppliers credit.

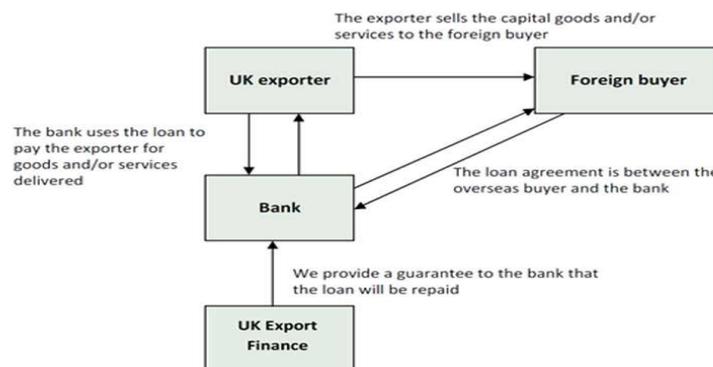
- a) Buyer’s credit: The credit is given to an importer by a bank. Buyer’s credit is given for large export orders as it involves many parties to the contract and legal formalities of more than one country. The importer can request for funding in a major currency to avoid Forex risk. The credit taken is repaid over the specified period stated in the terms of the contract. This arrangement protects the financial institution that is lending and also insulates the bank from political, economic and commercial risk.



**Fig 11.3 Structure of Buyers Credit by UK Banks**

Source: <https://www.gov.uk/guidance/buyer-credit-facility>

b) Suppliers credit: This credit is extended to overseas exporter to finance importers requirement. The importer can pay a portion of the value and signs a promissory note to pay the rest on receipt of the goods and on acknowledging acceptance. The importer’s bank is called the presenting bank and the exporter’s bank is called the remitting bank. The maximum time duration of supplier’s credit in case of capital goods is 3 years and that for revenue goods is 1 year.



Source: <https://www.gov.uk/guidance/buyer-credit-facility>

**Fig 11.4 Structure of Supplier’s Credit by UK Banks**

They also provide tied and untied financing. 'Tied financing' is financing cover from an ECA that is tied to the exports from its home country. ECAs charge a premium depending on the commercial and/or political risks associated with the loan. Country risk is also a key factor that is taken into consideration for fixing the level of premium to be charged on the finance given to the project. Untied financing does not make it mandatory for procurement of goods or services from host country. This type of financing is often linked to equity investments by companies from the ECA's home country or financing to increase future exports for the home country.

**6) Host governments:**

Direct and indirect financial assistance is given by host governments <sup>iv</sup> especially to projects that are essential and are considered priority for the economic development of the nation. They finance projects in various forms like - equity investment by government investment companies; investment grants; subsidized loans to support new enterprises in depressed areas; income tax concessions or tax holidays or real estate tax concessions; subsidized energy costs, subsidized communications, and subsidized employee support services like schools. This will directly or indirectly reduce the pressure on operational cashflows of the project.

**7) Commercial bank:** are another major source of finance for funding projects. Commercial banks give project finance for long term. The rate of interest depends on the type of loan, amount and market conditions. Sourcing of finance from commercial banks in a host country is advantageous for projects as funding will be in local currency. Commercial banks in developing countries are not strong in their capital base that they do not fund projects easily. The Basel III norms will allow national regulators to specify the level of Liquidity Cover Ratio they will require for letters of credit. This may bring change in the way short term finances are approved for projects. The capital adequacy norms as per BASEL III will require more assets and appropriate risk weights attached. Banks need to maintain Net Stable Funding Ratio (NSFR). <sup>v</sup>This will influence the funds available for long term by a project.

**8) Islamic finance:** This is a new source of project financing. Investors are now looking at Shariah compliant projects is attractive for investors. Further to financial crisis there was global economic downturn, project sponsors started looking for alternate financing alternatives. Middle East Countries started to focus on Islamic finance for their projects.

Equity and debt can be raised from public or private sources. Public sources include capital that is raised by seeking permissions and necessary approvals from SEBI. Private capital include: loans given by banks and financial institutions; and issuing equity, preference and debentures to private sources. The private sources are private equity funds, venture capital firms, financial institutions, mutual funds, insurance companies and wealthy individuals. The proportion of debt to equity in a project is based on negotiations between primary lenders and

project sponsors. Benchmark of an industry is considered as a base for fixing debt equity ratio.



### *Check Your Progress- A*

---

Choose the correct option for the Multiple Choice Questions out of the given options for each question.

1. When a company undertakes a project, it creates \_\_\_\_\_ to implement the project and protect parent company from risks.
  - a. Special Purpose Vehicles (SPVs).
  - b. Project sponsor
  - c. Financial institution
  - d. Documentation
2. There are two broad sources of capital available for projects. They are
  - a. Eurocurrency loans and Debentures
  - b. Shareholders' funds and loans funds.
  - c. Letter of credit and buyer's credit
  - d. Multilateral development agencies and Islamic finance
3. Financial institutions give loan to the projects on the basis of
  - a. cash flows projections of the project.
  - b. amount of capital estimated by projects
  - c. name of the project sponsor
  - d. country where is project is to be implemented
4. An Indian financial market that trades, deals and issues securities of those firms that are from Denmark is an example of
  - a. foreign market
  - b. National market
  - c. International market
  - d. Local market
5. The securities issued in \_\_\_\_\_ markets are not regulated by national bodies.
  - a. Offshore markets
  - b. Foreign markets
  - c. Domestic markets

- d. Capital markets
- 6. If project requires indirect equity investments in euro markets then the project sponsor looks at \_\_\_\_\_ as an option.
  - a. Euroyen bonds
  - b. Eurocurrency loans
  - c. Global Depository Receipts (GDRs).
  - d. Equity shares
- 7. Europound bonds are sold
  - a. Outside United Kingdom
  - b. Inside United Kingdom
  - c. Inside Europe
  - d. Outside Europe
- 8. This institution provides funding to projects that are unable to access private sector capital markets.
  - a. World Bank
  - b. International Financial Corporation
  - c. COFACE
  - d. EXIM bank
- 9. This is a loan that is senior to equity capital for repayment.
  - a. Debenture
  - b. Preference capital
  - c. GDRs
  - d. Subordinated loan
- 10. Project financing estimates must be calculated taking into consideration the movement of currencies involved in the project. This will protect the project from
  - a. Economic risk
  - b. Country risk
  - c. Forex risk
  - d. Liquidity risk

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## 11.6 TYPES OF CAPITAL AND DEBT

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**Internal Accruals:** of a firm is also a source for financing projects. The internal accruals add up for a firm by depreciation and retained earnings. Depreciation is a non cash item. So this adds up the cash source. Retained earnings are profits of the firm that is not distributed to the shareholders as dividend. This is invested in the company again.

- a. Advantages of internal accruals:
  - i. They are immediately available.
  - ii. There are no transaction costs involved.
  - iii. There are no external forces influencing usage of internal accruals.

- b. Disadvantages of internal accruals:
  - i. The amount available can only be used.
  - ii. The opportunity cost of internal accruals is higher than equity.
- 2) **Equity Capital:** is the ownership capital of the project sponsor. Shareholders jointly own the company and share the profits and bear the risks of the owning the business. The shareholders have right to income, right to control the firm, right to share the assets after paying off all the creditors in case of liquidation.
  - a. Advantages of Equity Capital:
    - i. It's a long-term source of financing. Distribution of dividends is not compulsory. The company will pay only when excess profits are available.
    - ii. There is no obligation to repay as there is no date of maturity for equity capital.
    - iii. Lenders who are evaluating project finance proposal look at equity capital of a company as a commitment of shareholders. This means that the shareholder will be responsible and motivated to complete the project. Companies with equity capital will have more creditworthiness and can borrow more.
  - b. Dis- advantages of Equity Capital:
    - i. The return expected by shareholders is usually the highest. So the cost of raising equity is expensive for the company.
    - ii. Cost of issuing equity capital includes underwriting commissions, brokerage fees, etc. This makes issuing costs high for equity capital.
- 3) **Preference Capital:** This capital is a form of raising finance. It has combined features of debt and equity. It has features of equity of – dividend out of profits; dividend payment is not compulsory and will be paid only when excess profits are available. It has some common features of debt like: the dividend rate is fixed like interest rate; the preference dividend is paid before equity dividend; they do not have right to vote in matters relating to the company like the lenders.
  - a. Advantages of Preference Capital:
    - i. Distribution of dividends is not compulsory. The company will pay only when excess profits are available.
    - ii. There is no obligation to repay as there is no date of maturity for preference capital.
    - iii. There is no requirement of security of assets to be given to preference share holder.

- b. Dis-advantages of Preference Capital:
    - i. Preference Capital is costly than loans.
    - ii. In case of liquidation, preference shareholders will have right on the assets before the equity owners.
- 4) **Subordinated loans:** These are known as mezzanine financing or quasi equity. It is a loan that is unsecured. This is a loan that is senior<sup>vi</sup> to equity capital for repayment. But in the case of liquidation of a company, it ranks only after liquidator, government tax authorities and other senior debt. These debts are very risky for the lender. Sources for subordinated debt are finance companies, risk capital companies and insurance companies.
- a. Advantages of Subordinated loans:
    - i. Subordinated debt is usually lent at a fixed rate, its long term and unsecured.
    - ii. This debt is considered as equity for debt equity calculations by senior lenders.
  - b. Disadvantages of Subordinated loan:
    - i. The lender of subordinated loan looks at cash-flows of a project. This puts pressure on the project operations as the cash-flows should be sufficient to repay principal, interest of senior debt and subordinated debt.
    - ii. Lenders of subordinated loan scrutinize capabilities of management as they lend without any asset backup. They also look at equity kickers<sup>vii</sup> if they are lending to a project with low creditworthiness.
- 5) **Senior Debt:** The largest form of project financing is debt. Sources of senior debt are Commercial Banks. These loans are repaid first in case of any financial trouble of the project. Senior debt can be secured or unsecured. The security for a senior debt can be in many forms (example - agreement to be paid by a ratio of dedicated cash-flows or lien<sup>viii</sup> agreement on specific assets of the company). Banks and financial institutions are major source for giving secured and unsecured loans. Unsecured loans are often given by sponsors. In a secured loan, the value of an asset given as collateral exceeds the amount lent. The lenders primary interest is cashflows of the project and they fall back on collateral only in case of any financial problem of the project. The lenders of senior debt hold security interest<sup>ix</sup> in the project.
- 6) **Working capital advances:** Commercial banks are a major source for funding short term requirements. Projects require funds to finance their current assets; this support is given by banks as working capital advances. The forms of working capital advances are cash credits/overdrafts/loans/bill discounting/letter of credit. Terms and conditions of this form of lending are specified by the bank.
- 7) **Miscellaneous sources:** A project may finance its requirements directly or indirectly. Various ways in which project may obtain finance which are not discussed above are

- Deferred Credit, Lease and Hire purchase finance, Special schemes by financial institutions, commercial paper, factoring and securitization.

Whatever may be the type of capital or debt used in a project, the senior lenders to a project will be careful about the following:

- They will ensure that the project is successful and delivering the required cashflows so that there are no new lenders added. This will keep their security interest safe. Otherwise they have to share the security interest with other lenders.
- The lenders will ensure that in case of a problem, they will share the proceeds available in proportion to their amount given by them.
- Senior lenders will want to protect the cash flows from being diverted for other purposes without repaying the amount as promised in the agreement.

Project financing involves numerous lenders to a single borrower. In an event of any problem there will be problems and disputes between lenders. To avoid this disputes they enter into inter- creditor agreement. These agreements give clarity on procedures, agreements and understanding on: priorities of loan repayment; for accelerating the maturity of loans; for deciding on loss sharing in case of need; and coordinating foreclosure<sup>x</sup> of any collateral security for the benefit of all lenders.

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## **11.7 KEY POINTS TO BE KEPT IN MIND WHILE PREPARING AN ESTIMATION OF PROJECT FINANCING REQUIREMENT**

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1. Estimate the amount of external funding required for the project keeping in view the previous commitments given by the project sponsor to equity of debt holders. The amount required is sum of total cash cost for completion of project + interest on project loans that must paid during the execution stage of project + any other charges that are incurred in arranging project finance + initial working capital requirement + cash to meet salaries and other operating expenses that are needed in the stages before completion of project.
2. The project sponsors must work on optimum debt equity ratio. The optimization depends on the projects expected profitability, operating risk, security arrangements for financing, and credit worthiness of parties engaged. The long term purchase agreements by project's output purchaser will also help the project in raising funds at lower costs.
3. Cash-flow estimations must be made by understanding separation principle. It means that we should understand that the project has two sides – investment and financing side. Cash-flows estimations of investment side and financing side should be drawn separately.
4. In the present scenario of international business we should understand that projects have costs to be paid and revenues to be received in different foreign currencies.

Project financing estimates must be calculated taking into consideration the forex movement of currencies involved so that the project can manage forex risk.

5. Expected life of the project should match the term of financing that is selected.
6. Decide the requirements of long term and short term financing and sources that would finance the requirements.
7. The project finance estimations should also understand tax, regulatory and legal rules related to project financing in the host country. For example, withholding tax <sup>xi</sup> will affect dividend payment; management fees etc to foreign companies.

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## 11.8 SUMMARY

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In this unit you understood the difference between project finance and corporate finance. The unit also takes you through as to why do we need project finance and what are the advantages and disadvantages of using project finance. To raise the required finance we have to identify sources available which are explained in this unit under the head sources of financing. These sources will finance projects but we need to understand as to what instruments or capital forms these sources will give for the projects. This part is explained in types of capital available for projects. Once we understand these we have to draw an estimation for project financing keeping in view not only sources and capital but other points too that is mentioned in last section as key points to be kept in mind while preparing an estimation of project financing requirement.




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## 11.9 GLOSSARY

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**Equity claim-** The project sponsor may issue instrument for residual amount which is commonly called as equity claim.

**Eurocurrency Loans:** The most commonly used source of financing projects is External Commercial Borrowings (ECBs). The instrument used for borrowing is Eurocurrency Loans)

**Multilateral development agencies:** are institutions, created by a group of countries that provides financing and professional advising for the purpose of

development. Developed countries with surplus funds and developing countries that require funds are members in these institutions.



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## 11.10 ANSWERS TO CHECK YOUR PROGRESS

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### Check Your Progress –A

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



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## 11.13 TERMINAL QUESTIONS

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- Q1. What is project finance?
- Q2. Discuss the advantages and disadvantages of using project finance.
- Q3. Explain the various sources available for financing projects.
- Q4. “There are various types of capital available for project financing” – Discuss
- Q5. What are the important points that a project sponsor should consider while preparing a project financing requirement
- Q6. Explain the financial instruments used by project sponsor to raise capital from international market.
- Q7. Draw a typical project finance structure and explain it.

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## 11.14 ACTIVITY

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1. You are to identify a multilateral development agencies/Export Credit Agencies of your choice in India or abroad. Go their website and collect information regarding the project finance activities of the institutions. They information can be one project or many projects.
2. Assume that you have an idea and want to source finance for the project. Can you write a simple note on what is the project, what type of capital is required, why will you select a particular source and what will be a major point that will affect your project finance estimation and why?

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<sup>i</sup> Transaction Structure: Project finance transactions include series of transaction to ensure successful execution and implementation of projects.

<sup>ii</sup> Working capital is excess of current assets available for current liabilities. It is measure that indicates short term financial health of a company/project.

<sup>iii</sup> Syndicated loan is where a group of lenders agree to lend to a borrower under a single loan agreement.

<sup>iv</sup> Host government is the local government where the foreign in An agreement between a foreign investor and a local or host government governing the rights and obligations of the foreign investor and the host government with respect to the development, construction, and operation of a project by the foreign investor.

<sup>v</sup> NSFR seeks to calculate the proportion of Available Stable Funding ("ASF") via the liabilities over Required Stable Funding ("RSF") for the assets. Sources of Available Stable funding includes: customer deposits, *long-term* wholesale funding (from the interbank lending market), and equity. "Stable funding" excludes *short-term* wholesale funding (also from the interbank lending market).

<sup>vi</sup> In finance, seniority means the order in which claims are settled in event of sale or bankruptcy. Seniority reference can be made to either debt or preference capital.

<sup>vii</sup> Incentives given to lenders to make them lend. Example: Convertible Debt, Debt with stock options etc.

<sup>viii</sup> Lien is an official agreement that allows someone to keep the property of a person/company who owes them money until it has been paid

<sup>ix</sup> A security interest on a loan is a legal claim on collateral that the borrower provides that allows the lender to repossess the collateral and sell it if the loan goes bad.

<sup>x</sup> Foreclosure is a legal process in which a lender attempts to recover the balance of a loan from a borrower who has stopped making payment

<sup>xi</sup> A **withholding tax**, or a **retention tax**, is an income tax to be paid to the government by the payer of the income rather than by the recipient of the income.

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## **UNIT12 PROJECT FINANCING**

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### **12.1 Introduction**

### **12.2 Objectives**

### **12.3 What Is Project Financing?**

### **12.4 Different Players Involved in Financing a Project**

### **12.5 Methods of Project Financing**

### **12.6 Working Capital Requirement and Financing**

### **12.7 Time Value of Money**

### **12.8 Cost of Financing**

### **12.9 Cost of Various Financing Instruments**

### **12.10 Classification of Cost**

### **12.11 Factors Affecting Cost of Financing**

### **12.12 Strategies of Financing**

### **12.13 Boom in Project Financing in India**

### **12.14 Project Finance Issues**

### **12.15 International Financial Institutions and Multilateral Banks**

### **12.16 Summary**

### **12.17 Glossary**

### **12.18 References**

### **12.19 Suggested Readings**

### **12.20 Terminal and Model Questions**

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## **12.1 INTRODUCTION**

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Every new project is divided from the other developers' assets in project funding, dependent on non-recourse debt. Various entities are formed to share the project cost for construction and operations stage and without dealing with the balance sheet of the parent company, the main project supporter. A —Special Purpose Vehicle (SPV) is the borrower and the asset is on its balance.

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## 12.2 OBJECTIVES

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After study of this unit, you will understand the following:

- Different Players Involved in Financing a Project
- Methods of Project Financing
- Cost of Financing
- Cost of Various Financing Instruments
- Classification of Cost
- Factors Affecting Cost of Financing

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## 12.3 WHAT IS PROJECT FINANCING?

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Project finance is a way to receive funds for commercial, long-term infrastructure and public works programs. In other words, project finance is a means to provide funds to large, long gestational capital intensive projects where, the borrowers depend on the project assets as protection and the cash flow created by the project as a source of funds to repay their dues. Based on these project financing features, the lending demanded by the borrower is often sanctioned by the lenders depending on an in-house assessment of the cost and feasibility of the projects and on the creditworthiness of project promoters.

Project financing allows expanding manufacturing efficiency, reserve a workstation, updating technology, managing unexpected expenses, playing with a new service or device, building cash stream, etc. The financing for a given project consists of funds focused largely on the cash flow of the project. After determining the income source of a project, creative financing strategies will help finance the potential of possible project revenues to finance the projects.

An intermediary is created, called Special purpose vehicle (SPV), to bridge the gap between sponsors and borrowers. The SPV's primary role is to monitor the funding and management and insure that the project properties do not fall to the effects of a project failure.

### VARIOUS STAGES OF PROJECT FINANCING

#### 1. Pre-funding process

- (a) *Project plan discovery*-It includes determining the project's development strategy and assessing whether or not it is feasible. It is important that the investor in order to insure that the business proposal is compatible with the financial services company's goals perform a pre-emptive study.
- (b) *Risk identification and elimination*: Risk minimization is one of the main measures to be taken before the project financing business begins. The investor has the right to verify that the proposal has adequate funding available to prevent more risks before investing.

- (c) *Feasibility check*: It is critical that a project is tested before an investor agrees to invest in a project if all the relevant considerations are economically and technologically feasible.
2. **Funding process**: This stage is the most critical part of project financing and further sub-categorizes as:
- (a) *Procurement of funds*: For the funding of the project, the sponsor needs to arrange funds through needs to arrange public financing or bank loan from a financial services company whose priorities are compatible with those of the project.
- (b) *Negotiating funding*: The borrower and lender discuss the sum of the loan and make a joint agreement on the same.
- (c) *Documenting*: The conditions of the loan are agreed on and reported by each other in compliance with the policy of the project.
- (d) *Amount transfer*: After the collateral paperwork has been completed, the borrower collects the funds as previously agreed to carry out the project operations.
3. **Post funding process**:
- (a) *Regular monitoring*: As the project begins, the project manager is responsible for constantly tracking the project.
- (b) *Closing phase*: This stage indicates the completion of the assignment/project.
- (c) *Payment*: Following the completion of the project, the cash flow from activities must be tracked as these funds are then used for repaying the loan taken to finance the project.



### Check Your Progress- A

**Q1. State the meaning of a Project financing?**

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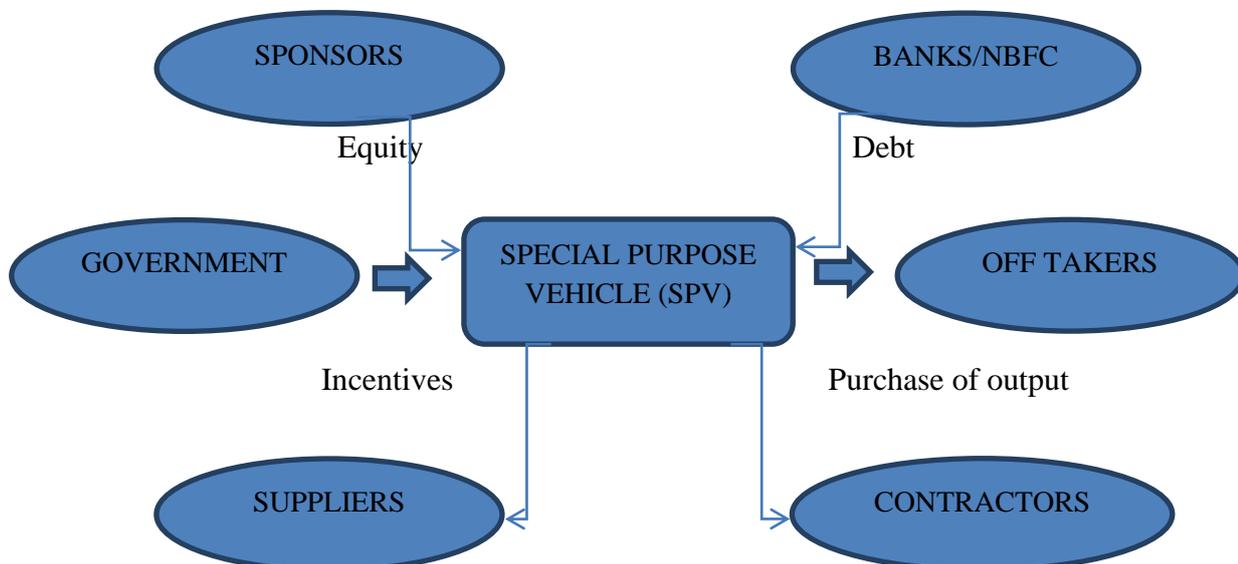
**Q2. Explain the purpose of financing a project?**

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## 12.4 DIFFERENT PLAYERS INVOLVED IN FINANCIANG A PROJECT



**Fig 12.1 DIFFERENT PLAYERS INVOLVED IN FINANCIANG A PROJECT**

### Special Purpose Vehicle

A Special purpose vehicle (SPV) is appointed to ensure careful control of the project funds in order to minimize inability to execute the assets in the case of project failure. Since this entity is specifically built for the project, the only asset is the project. The formation of SPV assures the engagement of the borrowers by maintaining financial stability of the project.

### Sponsors

Sponsors are typically the parent company's share capital holders willing to pursue project funding. It happens if two organizations establish synergies between them or potentially benefit from the underlying SPV. They are SPV equity suppliers. Prior to floating an SPV, the owners of the parent company must receive authorisation by means of a shareholder agreement (SHA).

**Banks/NBFCs**

They are the suppliers of the older debt and have priority over the sponsors' extended debt (if any). The loan is strictly secured only against the SPV's cash flows and assets. Hence, proper checks are exercised before any credit is issued.

**Government**

It refers to the government of the country of origin of the SPV. It also regularly serves as the custodian in offering specific taxes incentives and subsidies.

**OFF Takers**

Off take agreements are one such critical document in a bundle of hundreds of main projects funding documents. In terms of securing project approval, off take agreements are the most critical. Another level of oversight is given for the off-take agreements. For the financial guarantees needed to confirm the projections of cash flow that form the basis of the loan repayment, lenders depend on off take agreements.

**Suppliers**

Like any construction work, suppliers and contractors are expected to execute a contract. They are the largest raw material suppliers. They perform important roles, including design and development, operations and maintenance.

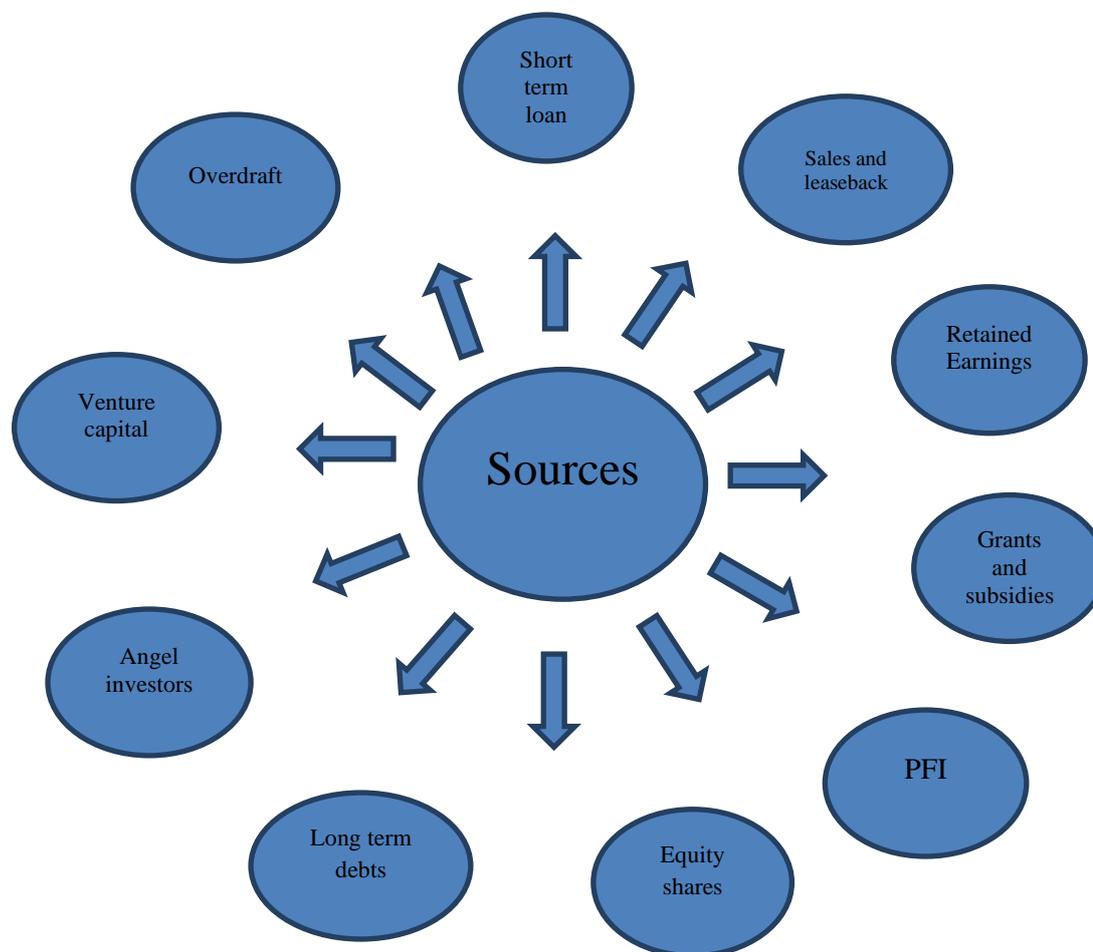
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## **12.5 METHODS OF PROJECT FINANCING**

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There are various forms of sources of financing for businesses to finance their ventures. For certain cases, long-term funding is required for a project focused on the project's cash income rather than sponsor's balance sheet. In conjunction with other stakeholders, one has to identify the most appropriate funding option for the project schedule.

The different funding sources can be classified into two major groups, i.e. financial equity and debt (financial borrowing). The mix of equity and debt should be selected carefully and depends on the complexity of the project. The project manager may select one or more of these methods for the project funding.



**Fig 12.2 Sources of Project Financing**

The following are the various sources or ways to fund a project:

**Equity:** Two types of capital exist, Equity capital and Preference share capital. Equity capital refers to the investment from the investors who bear their ownership burden and benefit. They earn a portion of the income that a dividend in exchange for their investment. They even be given a capital benefit from selling their stock. Preference options are less risky since preference securities are not business shareholders.

**Retained profits:** As a contingency the company holds a portion of net earnings. It is typically the most effective equity finance outlet.

**Convertible debt:** Convertible debts under some terms, typically at the issuer option, are converted into equity. In fact, this liability is viewed by high-ranking borrowers as secondary and pseudo-equity.

**Unsecured Debts:** These debts are given priority over equity and convertible debts at the time of dividend payments or reimbursement. As is evident from the word, the unsecured debt is not backed by any single asset and can be short as well as long-term.

**Secured Debt:** It is protected by particular assets or revenue sources and can be either short-term or long-term.

**Lease financing:** Leasing financing is an effective financial option, medium to long-term. The owner (the lessor) of the property gives someone else (the lessee) the right to periodically pay on the asset.

**Venture Capital:** It is private equity supported to small and medium businesses by eligible entrepreneurs (venture capitalist) that show a long-term opportunity for growth. This investment is risky because it is illiquid and, if invested in the right undertaking, is likely to produce spectacular returns. Rich investors want to invest their capital in these companies from a long-term prospect of growth.

**Grants and Subsidies:** Project support subsidies are provided to support a specific time period, cost, and purpose of pre-defined and linked collection of activities. Subsidies are incentives provided by way of compensation or tax cuts.

**Private Finance Initiative (PFI):** The PFI is a way of funding programs of the public sector by the private sector. PFIs reduce the immediate cost of capitalizing on these projects to governments and taxpayers. The private sector controls the operating expenses rather than the government under a corporate finance plan.

**Overdraft:** Overdraft financing is given when businesses pay out of their current business account above the cash balance available. An overdraft facility allows businesses to access short-term financing.

**Other Sources of Financing:** Other sources of financing a project include unsecured loans, public deposits (public borrowing), and leasing and hire purchase finance. Incentive sources are another form of financing given by the government and its agencies. These can take the form of seed capital assistance and tax exemptions. All these sources contribute only a small part of the total project capital.

**Check Your Progress- B**

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**Q1. Who are Project Sponsors?**

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**Q2. Which is the cheapest source of finance and why?**

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**Q3. What are SPVs?**

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## **12.6 WORKING CAPITAL REQUIREMENT AND FINANCING**

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The project manager considers the following points when estimating the working capital requirements of a project:

- Raw Material and components
- Work-in-Progress
- Stock of finished goods
- Operating expenses

The important sources of working capital are:

- Working capital advances from commercial banks
- Long term sources of financing
- Trade Credit
- Accruals and provisions

The project manager should be aware of the limits for obtaining working capital advances from commercial banks. He/she should follow the lending norms prescribed by the Tondon Committee regarding the aggregate amount of bank finance permissible. He/she should also have an idea about the amount of margin money a firm can provide against each current asset.

Initially, the Tondon committee proposed a method for determining the maximum amount of money a project can obtain to meet its working capital requirements. According to the method, at least 25 percent of current assets must be supported by long-term sources of finance. However, in order to provide greater freedom to borrowers to assess working capital requirements, this method (and similar methods) was withdrawn on April 15, 1997. Banks were instructed to evolve their own methods of assessing the working capital requirement of projects.

The Margin requirement varies with the type of current asset. The ranges within which margin requirements lie for various types of current assets are given here. However, there is no standard formula for determining the margin amount.

The project manager considers the time value of money, cost of capital, various appraisal criteria, and risk while conducting a financial analysis of a project. We will discuss the concept of time value of money in this unit. The concepts relating to cost of capital, risk analysis of projects, and various appraisal techniques that project managers use to evaluate the financial viability of a project will be discussed in subsequent units.

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## 12.7 TIME VALUE OF MONEY

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Money has a time value. The following statements illustrate this fact:

- Money can be used productively in order to generate real returns. For instance, a sum of Rs. 100 invested in raw material and labor results in finished goods worth Rs. 105. From this, we can say that the investment of Rs. 100 has earned a rate of return of 5%.
- In the case of inflationary periods, a rupee today has a higher purchasing power than a rupee in the future.
- The future is characterized by uncertainty. Therefore, individuals prefer current consumption to future consumption.

In order to clearly understand the concept of time value of money, let us consider a situation.

### Option A

Assume that your friend has given you two options. The first option is that he gives you Rs. 1000 today. The second is that he will give you the same amount after two years. Let us assess these two options that you have accepted the first option of receiving Rs. 1000 today. You can invest the amount at a simple interest rate of 5% for a period of 2 years.

The future value of this amount after two years would be calculated as:

End of first year =Rs. 1000 + (Rs.1000 x 5%) = Rs.1050

End of second year = Rs. 1050 + (Rs. 1000 x 5%) =Rs. 1100

Therefore, at the end of the second year, you would receive a sum of Rs. 1100

### **Option B**

Assume that you have accepted the second option of receiving Rs.1000 two years later. As the amount will be received later, you cannot invest it and therefore, cannot receive any interest of the amount. Therefore, the future value of this amount will be the same that is Rs. 1000.

Alternatively, considering the present value concept, the present value of Rs. 1000 at the end of year 2 would be:  $1000 / (1+0.05)^2 = \text{Rs. } 907.03$ . This amount is less than Rs. 1000. This means that the amount of Rs. 907.03 when invested at 5% for 2 years can get you Rs. 1000 at the end of the second year. That is, at the end of second year, you will receive Rs. 1000.

It is obvious in this example that you will choose option A as it gives you an additional amount of Rs. 100 after a period of two years.

Therefore, the time value of money states that an individual would prefer to receive a certain sum of money now rather than later.

The project manager considers the time value of money while evaluating the financial aspects of a project idea.

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## **12.8 COST OF FINANCING**

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A project can be taken up only after the necessary finance has been arranged from different sources. And identifying the right source is important because each source of finance has its own cost. The project manager has to assess these costs to help arrive at a decision on the source to use.

The cost of capital is the minimum rate of return the firm must earn on its investments in order to satisfy the various categories of investors who have made investments in the form of shares, debentures, term loans, etc. A firm's cost of capital is the weighted arithmetic average of the post-tax cost of the various sources of finance used by it.

Two important assumptions are made while calculating the cost of capital of a firm:

- The risk characterizing the new project being considered is not significantly different from the risk characterizing the existing investment of the firm.
- The firm will continue to follow the same financing policies. That is, there won't be any deviation or change in the debt-equity mix which is currently being followed by the company.

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## 12.9 COST OF VARIOUS FINANCING INSTRUMENTS

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### *Cost of capital*

A firm collects funds from different sources in order to invest them in profitable channels. This implies amongst other things that the cost of capital or the cost of funds must be lower than the return on investment so as to increase the value of the firm. Cost of Capital is the minimum rate of return expected by its investors. Cost of capital acts as a cut off rate or a hurdle rate or the minimum acceptable rate of return from an investment. It is the weighted average cost of various sources of finance used by a firm. The finance used by a firm may be in the form of debt, preference capital, retained earnings and equity shares. The cost of capital is the minimum rate of return expected by the investors which will maintain the market value of shares at its present level. In case, a firm is not able to achieve even the cutoff rate, the market value of its shares will fall. Hence, to achieve the objective of wealth maximization, a firm must earn a rate of return more than its cost of capital.

### *Significance of Cost of capital*

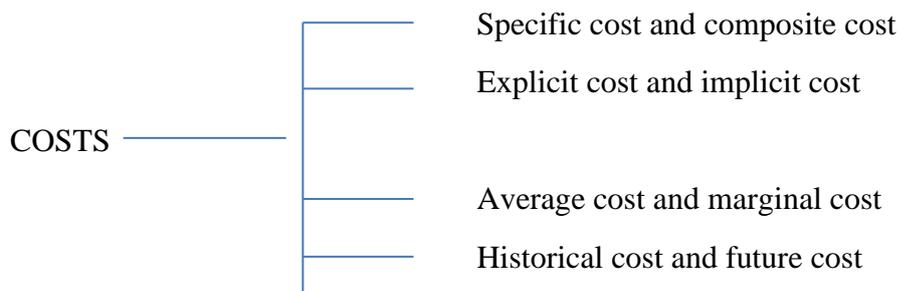
The significance of cost of capital can be understood by the following points:

1. As a basis for evaluating financial performance
  2. As an acceptance criterion in capital budgeting
  3. As a determinant of capital mix in capital structure decision.
  4. As a basis for taking other financial decisions.
- 
1. *As a basis for evaluating financial performance:* The actual profitability of the project is compared to the projected overall cost of capital and the actual cost of capital of funds raised to finance the project. If the actual profitability of the project is more than the projected and the actual cost of capital, the performance may be said to be satisfactory.
  2. *As an acceptance criterion in capital budgeting:* Capital budgeting decisions can be made by considering the cost of capital. According to NPV method of capital budgeting if the present value of expected returns from investment is greater than or equal to the cost of investment, the project may be accepted; otherwise, the project may be rejected. The present value of expected returns is calculated by discounting the expected cost inflows at out off rate (which is the cost of capital).
  3. *As a determinant of capital mix in capital structure decision:* Financing a firm's assets is very crucial problem in every business and as a general rule there should be a proper mix of debt and equity capital in financing a firm's assets. While designing an optimal capital structure, the management has to keep in mind the objective of maximizing the value of the firm and minimizing the cost of capital. Measurement of the cost of capital from various sources is very essential in planning the capital structure of any firm.

4. *As a basis for taking other financial decisions:* The cost of financing is also used in making the rights issue and working capital.

## 12.10 CLASSIFICATION OF COST

There are various costs which are incurred directly or indirectly by the firm. Fig. 8.1 gives the classification of cost groups.



- 1. Specific cost and composite cost:** Specific cost refers to the cost of a specific source of capital, while composite cost is combined cost of various source of capital. Composite cost is the weighted average cost of capital. Specific cost is used if the firm is using only one type of capital. If the firm is using more than one firm of capital, it is the composite cost which should be taken into consideration for decision making.
- 2. Explicit cost and implicit cost:** Explicit cost is the internal rate of return or discount rate which equates the present value of cash inflows with the present value of cash outflows. The explicit cost is also called as opportunity cost and can be calculated by the following formula for any specific source of finance.

$$I_0 = \frac{C_1}{(1+K)} + \frac{C_2}{(1+K)^2} \dots \dots \dots \frac{C_k}{(1+K)^n}$$

$I_0$  = Net cash inflow at zero point of time

$C_1$  = Outflow of cash in period 1, 2, 3.....n

$K$  = Explicit cost of capital.

Explicit or opportunity cost in the cost of opportunity foregone in order to take up a particular project.

- 3. Average cost and marginal cost:** Average cost refers to the combined cost of the various sources of capital such as equity shares, preference shares, debentures. It is the weighted average cost of the costs of various source of finance. Marginal cost is the average cost which has to be incurred to obtain additional funds required by a

firm. In investment decisions, the marginal cost is to be taken into consideration rather than average cost.

- 4. Historical cost and future cost:** Historical costs are the book costs which are related to the past. Future costs are estimated costs for the future. In financial decisions future costs are more relevant than the historical costs. However, historical cost act as guide for the estimation for future costs.

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## 12.11 FACTORS AFFECTING COST OF FINANCING

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Factors affecting cost of capital are the elements in business environment that cause a company's cost of capital to be high or low.

- 1. General Economic Conditions:** General economic conditions determine the demand for and supply of capital with in the economy as well as the level of expected inflation. This economic variable is reflected in the riskless rate of return. This rate represents the rate of return on risk free investment such as the interest rate on short term. If the demand for money increases without an equipment increase in the supply, lenders will raise their required interest rate. At the same time, if inflation is expected to deteriorate the purchasing power of the rupee, investors require a higher rate of return to compensate for this anticipate loss.
- 2. Market Conditions:** If an investor is purchasing a security where the risk of the investment in significant, the opportunity for additional returns is necessary to make the investment attractive. Essentially, as risk increases, the investor require a higher rate of return. This increase is called risk premium. If investor increase their required rate of return this will simultaneously cause a higher cost of capital. If the security is not readily marketable when the investor wants to sell or even if a continuous demand for the security exists but the price varies significantly, an investor will require a relatively high rate of return. On the other hand, if a security is readily marketable and the price of the security is reasonably stable, the investor will have a lower required rate of return and the company's cost of capital will be lower.
- 3. Firm's Operation and Financing Decisions:** Risks or the variability of return also results from decisions made within the company. Risk resulting from these decisions is generally divided into two types- Business risk is the variability in returns on assets and is increased variability in returns to the common stock holders as a result of using debt and preferred stock. As business risk and financial risk increase or decrease, the investor's required rate of return and the cost of capital will move in the same direction.
- 4. Amount of Financing:** As the financing requirements of the firm become larger the weighted cost of capital increases for several reasons. For instance, as more securities are issued, additional floatation cost (cost of selling securities) will affect the percentage cost of the funds to the firm. Also as a management approaches the market

for large amounts of capital relative to the firm's size, the investor's required rate of return may rise. Suppliers of capital become hesitant to grant relatively large sums without evidence of management's capability to absorb this capital into the business. This concern is reflected on the proverbial "too much too soon" as the size of the issue increases, there is greater difficulty in placing it in the market without reducing the price of security, which also increases the firm cost of capital.

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## **12.12 STRATEGIES OF FINANCING**

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Financial sponsors most commonly hire the financial advisor to execute the financial plan. Formulating a strategy to finance the project is really necessary. Advisors use scientific approaches for funding techniques, track records, and sound creative thinking. Financial advisors, through the sponsors, discover the various financing possibilities and examine each source and identify the risk. The key purpose of financial consultants is to remove the risk from the sponsors and make the best efforts to optimize project capacity to use or increase the gearing ratio. In order to execute the financial strategy, financial consultants need the company's cash flows. Every rationale investor expects minimum risk with maximum return. As per their risk hungeriness investors choose fixed and floating rates. The borrower's long-term loan would result in a high cost for the lender and the low rate for the short-term borrower. The maturity of project securities will be determined by financial advisors.

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## **12.13 BOOM IN PROJECT FINANCING IN INDIA**

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In 2009, India was listed at the ahead of Australia, Spain and America on the global project finance sector. The domestic Indian sector, which grew \$30 billion, was the main area for project financing in 2009, 21.5% of the overall demand for project investment.

The global project finance market was buttressed up in 2009 by government-linked projects such as social infrastructure and renewables and by the detail that 20 per cent of the market is in India. India became the largest and busiest market last year, replacing Australian leadership. With the financial crunch, the global project financing estimates have not been as high as the previous few years, following the failure of major banks in the West. PFI figures show that the project financing loan rates worldwide are 139.2 billion dollars in 2009 relative to a massive 250 billion dollars in 2008 and 220 billion dollars in 2007. The overall number of project financial results for infrastructure bonds in 2008 was \$147.4 billion, down from \$11.9 billion. The global market for Project Finance has decreased by 44 percent from 2008, to put it milestone, at 114.5 billion dollars in 2004 and 166 billion dollars in 2005. SBI resolved 36 loan transactions of \$20 billion – 35.2 percent of Asia Pacific's overall value. Which includes big contracts such as the financing for the Sasan ultra mega power project,

Adani Power and Sterlite Energy ventures and telecommunications services for Vodafone and Unitech?

The power sector continued to lend and produced record volume. Throughout the 53 business deals, more than \$22.3 billion was exchanged globally in the year, making up about 40% of the PF market. The government's new trends of growth of social services have also rendered a significant contribution.

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## 12.14 PROJECT FINANCE ISSUES

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The project's funding is made complex and complicated by a variety of characteristics. Huge amounts of the assets in the single asset are very complicated to spend. In certain industries the project cost is very high such that the financier has trouble and uncertainty investing quite a significant sum of capital. In the processing phase the business cannot generate high cash flow and thus create a big money lending problem for financier (Nevitt & Fabozzi 2000).

*Some issues are as following:*

- Cash flow control
- Maintaining liquidity balance
- Contingent fund requirement
- Unplanned progress

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## 12.15 INTERNATIONAL FINANCIAL INSTITUTIONS AND MULTILATERAL BANKS

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An international financial institution (IFI), which plays a leading role in project financing deals in developing countries, is one specific group of banks which also participate in international syndicated loans. Most of these organizations diversify in their positions, their duties, their tasks, their finances and their activities. In the 1990s, financial assistance in form of grants, incentives and insurance from bilateral and multilateral organizations helped quickly expand project financing in developing countries. A majority of project financing agreements were then taken over by an official entity, even though the amount of official assistance varied in the respective project sector and region. In reaction to the increasing belief that private contracts actually drive growth, several bilateral and multilateral institutions have moved from funding growth governments to private deals. A ability to participate in risky countries and industries undoubtedly helped in recent years to expand project funding.

### 12.15.1 MULTILATERAL ORGANIZATIONS

There are three explanations why MFOs play a very significant position in funding ventures for developing countries.

- (i) In countries with a significant political risk, their institutional structure makes financial contributions feasible.
- (ii) Throughout reform programs, they have played a significant role
- (iii) They continue to promote private sector financing and private infrastructure investment.

Multilateral financial organizations could in practice counterbalance the private capital flow pattern by rising loans during times of cheap money availability in the financial sector. In terms of political weight and amount of financing, the World Bank Group is the largest multilateral financial institution. It is made up of four main agencies, through which the World Bank contributes in many ways and works together with private and public parties to develop in Member nations; the IBRD (International Bank for Reconstruction and Development), IDA (International Development Association), IFC (International Finance Corporation), and MIGA (Multilateral Investment Guarantee Agency). Several global multilateral financial institutions (main global development banks) are involved globally in addition to the World Bank, which works on a particular geographical field. Some have a continental scope and mission (European Investment Bank in Luxembourg, Asian Development Bank in Manila, African Development Bank in Abidjan, Inter-American Development Bank in Washington). In their regulatory bodies, the geographical alignment of these banks is often visible, as stakeholders represent the continental nature of their operations.

### **12.15.2 WORLD BANK GROUP**

Originally known as the IBRD, it was mainly developed in Europe to fund post-war reconstruction. However, the target of poverty alleviation in the world has become more critical relative to the early days. There are five interrelated organizations in the World Bank Community, in which the participants are governments of Member States that have powers to take final decisions. Every organization plays a key position in the shared mission to counter deprivation and foster economic development in less developed countries, while IFC and MIGA are the two most significant in terms of financing initiatives, as they are primarily focussed private investment.

### **12.15.3 IBRD (INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT):**

The Organization works by way of, precisely, project financing deals such as:

- Prompt loan
- Limited risk guarantee
- Credit guarantee
- Enclave guarantee

Direct funding supports the private sector by co-financing arrangements. The bank will use governments as intermediaries to invest directly in private sector projects. Alternately, after securing assurances from the host country, IBRD and private banks lend directly to the SPV. The partial risk assurance protects the financial uncertainties of all countries willing to accept

World Bank loans, except for countries with very low income that can be covered by the guarantees provided under MIGA. Investors who enter into financial arrangements with the host governments are issued with a guarantee (i.e., the government entity is a borrower) or with SPVs or guaranteed by host government.

Those criteria illustrate why it is seen in relatively few projects financing arrangements. Project which is very large and complex World Bank intervention is indispensable. Indeed following risk are basically covered under those ventures.

Currency convertibility risk

Transferability and expropriation risk

Change in law.

Breach of contract risk

The limited credit protection is used to address a significant challenge in the syndicated loan market for infrastructure projects financing

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## 12.16 SUMMARY

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Project financing is a centuries-old method of high risk development financing. It is a long-term, limited recourse financing scheme that is used to fund massive projects which can be repaid using the project cash flow obtained after the completion of the project. The market and investment itself are defined by project finance attributes and characteristics of project financing. Project finance nowadays normally requires substantial capital sums. Developing countries infrastructure investments involve essential political risk evaluations as well as the addition of risk premiums at interest margins that are often significant. Infrastructure growth and the on-going need for advanced rates of capital to fund project ventures is constantly being emphasised by the government. There is a stronger need now than ever for robust experience of structuring and refinancing programs.

Every entity participating in the project must work strategically to strive to adapt quickly and efficiently to all the project's problems and to handle the danger and to make the project funding productive. The growing number of projects financed worldwide quickly supplies a stock of case studies for further study. Academic and popular project financing literature is scarce.



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## 12.17 GLOSSARY

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**Acceleration:** In the event of a project financing loan default, the acceleration of a project loan or loan represents a solution for the project lenders.

**Activity estimate sheet:** A form used to gather information needed to estimate a project activity.

**Actual cost:** The cost incurred to complete the work that was actually performed in given time period. Also called actual cost of work performed (ACWP).

**Alternative course of action review.** A review to identify other things that could be done to solve the problem or take advantage of the opportunity instead of the approach being taken by the proposed project.

**Bilateral agency (BLA):** An institution set up by one country to promote trade, for example an import and export agency or a credit agency (ECA).

**Bond paying agent:** A party which performs the same functions as the Agent Bank in which a project bond is issued to finance the SPV.

**Book runner:** The project manager financed by project bond issuance.

**Borrower:** The receiver of the loan, typically the SPV project business.

**Cogeneration:** Production process by the burning of a certain fuel (normally renewable energy), which produces energy and steam.

**Collateral deprivation risk:** Risks associated with loss of assets or not repurchasing plant by the concession authority.

**Commitment document:** Letter confirming the commitments of the organizers before syndication to finance the organization.

**Commitment fee:** A per year fee for untaken funds committed to lend by lenders is charged until the end of the period of availability.

**Completion risk:** Risk of building, development or overrunning costs.

**Condition precedent:** Prerequisite for events to allow the material distribution of the funds by the borrower is set out in the credit agreement.

**Construction period:** The project life phase when the plant is first built and tested.

**Construction schedule:** Detailed work schedule requested to monitor the milestones of the project.

**Contamination risk:** The possibility to influence the total solvency of a party could be the results of a new project.

**Dividend trap:** A restriction on the willingness of a project corporation to pay dividends, while cash is sufficient, because of a discrepancy between net profit and profits Cash Flow to shareholders.

**Equity injection:** Equity to be contributed by project sponsors when economic and financial parameters are not complied with.

**Financial closing:** The point at which all agreed conditions of lending between the agreement bank and the applicant pool are terminated indefinitely.

**Financial package:** Section of the report on the financial framework of the individual enterprise. The financing package maps out the balance of resources aligned with the revenue sources and the economic structure of the project.

**Internal rate of return (IRR):** The net present value of the positive cash flows of a project is equal to that of the net present value of its negative operating cash flows

**Interest rate risk:** The effect of higher interest rates on the flow cash project.

**Lending commitment:** Lenders promise to provide a certain debt capital amount.

**Limited-recourse financing:** Financing transactions where lenders can only take part in their exposure of credit risk on the part of SPV shareholders or third party guarantors and under certain previously agreed terms and conditions.

Sanctions paid in cases where contractual obligations are not fulfilled by the contractor or other project counterparties to the project company.

**Liquidated damages:** Sanctions paid in cases where contractual obligations are not fulfilled by the contractor or other project counterparties to the project company.

**Net Present Value:** The sum of the present values of all the cash inflows and cash outflows associated with the project.

**Network Risk:** Risk arising from interdependencies among the decomposed tasks.

**Procurement Audit:** It is a process of formally reviewing the procurement process starting from procurement planning stage till contract administration.

**Procurement Document:** It is a document that is used to invite proposals from eligible vendors.

**Producer's Risk:** It is the risk to the producer (any firm or department that produces goods for another firm or another department) that arises because of rejection of a good lot.

**Profitability Index:** The ratio of future cash benefits to the initial outflows is called as profitability index. It is also called as benefit cost ratio.

**Progress reporting system:** It is a mechanism that keeps the project organization updated on the performance of the vendor i.e., the way in which he is achieving the objectives of the contract.

**Project Procurement Management:** It is a process of acquiring goods and services from a firm external to the project (or performing) organization.

**Project Proposal:** An initial document that converts idea or policy into details of a potential project, including the outcomes, output, major risks, costs, stakeholders and an estimate of the resources and time required.

**Project Quality Management:** A subset of project management includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It consists of quality planning assurance and quality control.

**Quality Audit:** Quality audit is an organised, independent evaluation procedure to ensure that the project standards match the quality requirement.

**Quality control:** It is the process of specific project results in order to check their compliance with the quality standard.

**Risk response Controls:** It is the process of implementing a risk management plan to address the various risk factors associated with the project.

**Risk Response:** The steps by which the project manager responds to the risks identified and quantified.

**Schedule development:** Evaluating activity sequences, activity durations, and resource requirements to develop a project schedule.

**Schedule risk:** Failing to deliver the task as planned or scheduled.

**Sensitivity Analysis:** This technique is used to find out how sensitive the results of a particular financial model are to change in input variables.

**Simple Project:** Project in which the cash outflows are followed by cash inflows.

**Solicitation:** It is the process of gathering information in the form of bids, quotations and proposals from qualified vendors to satisfy the project needs.

**Stand-alone risk:** It refers to the risk a project faces when it is considered in isolation.

**Strategy map:** A tool that represents relationship between the projects and the key strategic objectives of the firm.



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## 12.19 SUGGESTED READINGS

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## 12.20 TERMINAL QUESTIONS

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- Q1. Project financing a financial closure is an important activity in the total project life cycle. Enumerate the area of importance.
- Q2. There are many related issues and aspects on Project financing. Make a list of these aspects/issues and discuss in brief.
- Q3. What are the modes of project finance? Enumerate and discuss in brief.
- Q4. Write a short note on
- (a) Venture capital
  - (b) Deficit financing
  - (c) Leverage analysis and project finance.
- Q5. Financial institutions have their own financing policies and norms for deciding the project financing. Describe these in brief.
- Q6. Write in brief about the incorporation of Infrastructure Development Fund Company Ltd. (IDFC) and discuss about its objective and achievements.
- Q7. What are the various sources of finance?
- Q8. Write a short note on:
- (a) Seed Capital
  - (b) Loan Syndication
  - (c) Short term sources of finance
  - (d) Leasing as a source of financing
- Q9. Describe the concept and meaning of financial closure and various stages involved in it.
- Q10. There have been many developments in the area of project financing. Discuss highlighting the important areas in developments.
- Q11. Write a note on:
- (a) Risk Management
  - (b) Globalization of financing system
  - (c) Private investments in infrastructure Project financing
- Q12. What are the latest techniques and measures to reduce the financing cost by the corporates?

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# UNIT 13 WORKING CAPITAL FINANCE FOR PROJECTS

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## 13.1 Introduction

## 13.2 Objectives

## 13.3 Working Capital Concepts

## 13.4 Components of Working Capital

## 13.5 Spontaneous Finance

## 13.6 Negotiated Finance

## 13.7 Commercial Papers

## 13.8 Bank Credit for Working Capital

## 13.9 Other Sources of Working Capital Finance

## 13.10 Summary

## 13.11 Glossary

## 13.12 Answer to Check Your Progress

## 13.13 Reference/ Bibliography

## 13.14 Suggested Readings

## 13.15 Terminal & Model Questions

## 13.16 Web Exercises

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## 13.1 INTRODUCTION

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Working capital is an important facet of project financing and hence its effective management is important for the different types of business ventures. Efficient management of working capital involves managing the different facets of the business venture to eliminate cash that is tied up in the business cycle. As you know that working capital is the amount of capital needed for projects to operate smoothly and without interruption. In general, working capital refers to the difference between current assets and current liabilities. For further recalling the conceptual background, learners are instructed to refer to Unit 15 An overview of Working Capital Management included in MS 109 Financial Management. However, this unit explains the financing side for the working capital gap and discusses the sources of funds which can be availed for making the investment in current assets. Several sources have come forth to finance the working capital requirements of a project. For going to an appropriate

financing option, a project manager should be aware of various financing options that are available to meet short-term requirements.

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## 13.2 OBJECTIVES

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After reading this unit you will be able to;

- Understand the meaning of Working Capital.
- Assess the spontaneous and negotiated source of working capital finance.
- Understand the Trade Credit as an important source of finance.
- Conversant with estimating the nominal and effective cost of Trade Credit.
- Understand the Factoring and its Types.
- Understand the importance of Bank Credit as an importance source of negotiated finance,
- Know the basic requirements for issuing Commercial papers.
- Understand the other sources of Working capital Finance.

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## 13.3 CONCEPTS OF WORKING CAPITAL

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### 13.3.1 MEANING

In the overall management of finances of a project, working capital management has its relevance and is considered to be a vital concern. Working capital directly influences the liquidity of a project and to an extent managing current assets adequately also impact profitability. Therefore, management of working capital requires the development of an apt policy for management of cash, inventories, receivables, accruals, and payables. Management of working capital is a careful exercise that initiates with the assessment of current needs and financing for working capital and concludes with the assistance to strengthen working capital in a project.

### 13.3.2 CONCEPT OF GROSS AND NET WORKING CAPITAL

Since, Working Capital is defined in two ways therefore there are two concepts of Working Capital:

- (i) Gross Working Capital.
- (ii) Net Working Capital.

**Gross Working Capital:** This conveys total amount invested in current assets.

**Net Working Capital:** Net working capital refers to the difference between current assets and current liability.

**Net Working Capital= Current Assets – Current Liabilities OR**

**Gross Working Capital – Current Liabilities**

So, if Current Assets is greater than the Current Liabilities, then Net Working Capital is said to be positive. However, in case if Current Assets is less than the Current Liabilities, then Net Working Capital is said to be negative.

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## 13.4 COMPONENTS OF WORKING CAPITAL

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Learners, working capital management involves the management of two aspects one is current assets management and the other is the management of current liabilities.

**Current Assets-** A current asset is an asset that a business maintains that can be quickly sold or consumed and can further lead to liquid cash conversion. So, these assets are liquid in nature and can be easily converted into cash within one accounting period. These includes;

- I) Inventories-**
  - a) Stock of Raw Materials
  - b) Stock of Work in Progress
  - c) Stock of Finished Goods
  - d) Stock of stores, spares and fuel, etc.
- II) Sundry Debtors**
  - a) Debts outstanding for a period exceeding six months.
  - b) Other Debts
- III) Bills Receivables**
- IV) Cash and Bank**
  - a) With Scheduled Banks
    - i) in current account
    - ii) in deposit account
  - b) With Non-Scheduled Banks
  - c) Cash and Cheque at collection centres
  - d) With others
- V) Marketable Securities**
- VI) Loans and Advances**
  - a) Bills receivables granted by scheduled banks
  - b) Secured loans
  - c) Unsecured loans
    - i) Advances recoverable in cash or kind for value to be received
    - ii) Deposits
    - iii) Balances with customs and Excise Authorities
  - d) Taxes paid in advances and deducted at source
- VII) Prepaid Expenses**

**Current Liabilities**-These are the obligations of the company which are to be paid within one accounting period, usually one year.

- I) **Acceptances**
- II) **Sundry Creditors**
- III) **Advances and deposits from customers**
- IV) **Unclaimed dividend warrants**
- V) **Unclaimed debenture interest warrants**
- VI) **Application money refundable**
- VII) **Interest accrued but not due on loans**
- VIII) **Hire purchase dues**
- IX) **Short term loans and advances**
- X) **Cash credit from banks**
- XI) **Other short-term payables**
- XII) **Bank Overdraft**
- XIII) **Provisions**
  - a) Provision for Taxation
  - b) Proposed dividends on preference and equity shares
- XIV) **Bills payable**
  - a) for the purposes of current production.
- XV) **Income received in advance**

Now , let us study the various sources of financing working capital. These are broadly divided in to Spontaneous and Negotiated Financing. Let us study them in detail;

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## 13.5 SPONTANEOUS FINANCING

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Finance which naturally arises in the due course of business is called Spontaneous Financing. These occur in the regular course of the business and result from the normal business activities. It is provided when the raw materials or goods or services are purchased and payment is made at the later date, thus giving an additional buffer of funds to an enterprise. However, these funds are not secure. Examples of Spontaneous Financing are Trade Credit, credit from employees, credit from suppliers, accrued expenses, etc.

**Trade Credit:** Trade credit is offered to a firm on the purchases which is made by other firms and organizations on credit. It is the credit that is received from the suppliers of goods in the normal course of business. In the normal functioning of the business, a firm purchases raw materials and other goods from the seller firm however, they pay for the products so purchased after sometime. This deferral payment provides short term financing in India.

When a firm receives credit without any legal formalities or agreement then it is called as Open Account Trade Credit. It is an informal arrangement as the supplier sells goods to the purchaser which is accepted by him/her and which depicts agreement by the purchaser to pay the amount due. However, such an agreement is not in written or legal form. This Open Trade

Credit appears in Sundry Creditors in the liabilities side of the Balance Sheet. When an instrument is written, notably as a negotiable instrument which acknowledges the debt, it is termed as bills or notes payable. It appears in the liabilities side of the purchasing party as Bills Payable. The bills denote the specified date in the future thus giving the clarity of the seller that the purchase is willing to make the payments at a later date. For financing the working capital of a project, this source is the most dependable source and is easier to obtain and it does not have direct costs. However, variation in the sales may reflect the increment and decrement in this source of capital. Accounts Payables or Trade Credit is the largest single operating current liability which represents about 40% of the current liabilities for an average non-financial corporation. Open account purchases are a major source of unsecured short-term financing for business firms.

**Credit Terms:** It denotes the terms and conditions under which credit sales are made to the buyers of goods. Credit terms differ from industry to industry however, it depicts three aspects, these are

- i) The duration of the credit allowed which is termed as the net date.
- ii) The discount allowed for cash payments.
- iii) The period within which the payments should be made.

These are specified as x/y net z, which stated that the buyer will get X percent discount if the payment is made within Y days; otherwise, s/he has to clear dues within Z days. Thus, 4/15 net 30 indicates that a 3 percent discount shall be available if the credit is paid by the customers within 15 days otherwise, they have to clear their payment within 30 days. However, the cost of the foregoing discount shall be

$$\text{Opportunity cost of forgoing the discount} = \frac{0.04}{1-0.04} \times \frac{360}{30-15} = 1$$

If a company is not able to avail cash discount, in such a situation it would be advisable for the company to clear dues on the expiry dates. This will extend the availability of cash without incurring additional costs. But it would also be borne in mind that frequent delays in payment may affect the company's image.

### **Advantages of availing Trade Credit**

The major advantages of availing Trade Credit are;

1. Trade credit is relatively easily available which does not require extensive formalities and negotiations.
2. Trade credit is the mutual agreement between buyer and seller that is easy to sustain as long as the conditions are met.
3. Trade credit facility magnifies with the increment in the sales of the firm. Thus, increment in sales results in subsequent increment in purchases, thus providing an opportunity of automatically financing.
4. Trade credit does not offer restrictions as compared to negotiated finance.

5. Trade credit is potentially a low-cost form for working capital finance.

### **Cost of Trade Credit**

The cost of trade credit is rationally not explicit; however, it does not mean that it is cost-free source. Trade credit too have implicit cost and is assessed on three main aspects, these are;

- a) Loss of early payment discount.
- b) Delayed payment may spoil the image of the company and thereby it will impact its creditworthiness in long run and hence would be detrimental for an organization.
- c) It may impact working capital cost if the net effect of receiving and providing trade credit may result in a negative working capital situation.
- d) The restrictions may be imposed on the company for purchasing a minimum lot of quantity or minimum lot for a particular period say monthly or quarterly, this will create a deviation from the budgeted figure for the financial year.

Thus, a firm has to evaluate all the possibilities before availing trade credit and may assess all pros and cons before employing it for financing working capital for a project.

**Accrued Expenses** – The other source of Spontaneous Finance is Accrued Expenses. Accrued expenses are the amounts owed but not yet paid for wages, taxes, interest, and dividends. Thus, these can be assessed as short-term interest-free loans provided by employees, taxing authorities etc., to the firm which instantly increases the firm operations capacity. However, the firm cannot put much control on the accruals as these are regulated by economic forces, industry, and government norms. There is no direct cost associated with the accrued expenses and the firm may achieve liquidity by extending the payment for these expenses. The accrued expenses are an interest-free source that results due to delaying payments but the legal provisions should also be considered before relying on such funds. Further, in the long run, stretching accruals for long may also affect the goodwill and the credit rating of an enterprise. Thus, the accrued expenses account as a short-term liability. Similarly, taxes are paid at the end of the particular period extending the amount separated for the

taxes and may be extended till the last date or last week however, benefits accrue until the due date, but costs of penalties and interest beyond the due date reduce the benefits.

### **Provisions-**

Provisions are made for meeting future payments or expenses. They are the funds kept aside for an estimated expense. The examples are Provision for Taxation, Provision for Dividend and Provision for Depreciation etc. These do not result in the outflow of cash and such amount is retained in the business till the actual amount of liability is known and paid for. However, the scope of this source of financing is very limited.

**Bill discounting-**

Bill discounting is recognised as an important short-term financial instrument. Under bill discounting, the bank provides finance to the customer by purchasing or discounting of bills which are owned due to trade transactions. When a firm or an organization is a need of money and a drawer of Bill requires money before the due date then, the drawer may sell bills to banks at a certain rate of discount. The bill is endorsed by the drawer to the bank and the bank shall become the holder and the owner of the bill. After deducting its charges, the banks provide finance to the customer after scrutinizing the authenticity of the bill and the credit worthiness of the organization. The bank finances against the bills, the face value less interest or discount at an agreed rate for the number of days it has to run. Further, till the bill is honored by the party, the drawer is liable on the bill; hence it is termed as a contingent liability.

**Factoring**

Project Finance deals with the financing high risk, large investment, development-oriented ventures which can change the fortune of the owners, stakeholders and society in general. Therefore, it is important and relevant to manage cash inflows and outflows strategically with the capability of allocating risk to the parties. Therefore, for managing working capital for such projects it is important to manage credit sales and receivables in order to avoid the risk of bad debt losses. In this context, factoring provides the avenue to obtain the firm's immediate cash needs that assist the Project Managers to maintain a smaller ongoing cash balance. Factoring is the continuing financial arrangement between the financial institution called a Factor and the Seller termed as Client. In this arrangement client sell account receivable or debt at a discount to the Factor. Factor as an agent collects the dues of his client for a charge, in terms of fees.

Factoring is a practice which is continuing for years. The Study Group appointed by the International Institute for the Unification of Private Law (UNIDROIT), Rome during 1988, stated the definition of factoring as “Factoring means an arrangement between a factor and his client which includes at least two of the following services to be provided by the factor;

- Finance
- Maintenance of accounts
- Collection of debts
- Protection against credit risk” (Khan M.Y, 2007)

However, this definition was not exhaustive as it didn't well-defined domestic factoring.

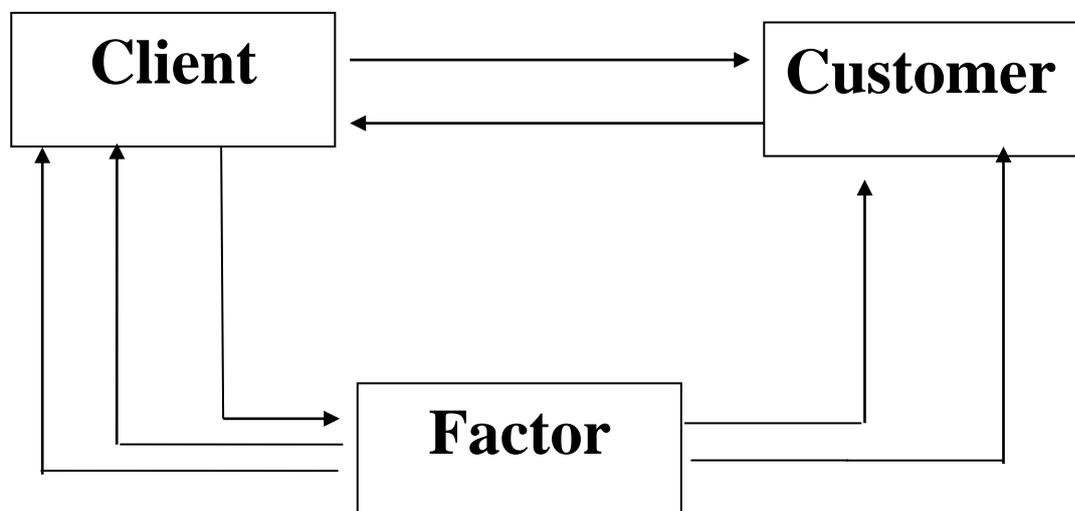
As per Westlake (1975), Factoring is a method of converting a non-productive inactive asset (i.e receivable) into a productive asset (*viz.*, cash) by selling receivables to a company that specializes in their collection and administration. (Pandey I.M, Page No. 689)

In the definition given under Factoring Regulation Act, 2011 A "factoring business" means the business of acquisition of receivables of assignor by accepting assignment of such receivables or financing, whether by way of making loans or advances or otherwise against the security interest over any receivables but does not include— (i) credit facilities provided by a bank in its ordinary course of business against the security of receivables; (ii) any activity as commission agent or otherwise for sale of agricultural produce or goods of any kind whatsoever or any activity relating to the production, storage, supply, distribution, acquisition or control of such products or goods or provision of any services;

The services provided by the Factor are the purchase of account receivables, providing immediate cash, administer the sales ledger of the seller or client, assesses the losses that may arise from bad debts, credit management, credit policy formulation and rendering advisory services. In case of without-recourse factoring, Factor also provides risk coverage and bear losses. Further, the credit worthiness of the customers is assessed by him/her on the basis of information collected from various sources, credit rating agencies, bank statements, trade references and financial statements.

### **Mechanism of Factoring**

Factoring helps in releasing the funds that are tied-up in the receivables and thereby availing cash for enhancing liquidity for day-to-day operations. The factoring mechanism starts with the agreement between the factor and a client specifying the limits, terms and conditions, costs and charges. All the receivables are offloaded to the Factor by the Seller, who has received receivables from the sales made on credit and the customers are informed to pay to the Factor. The factor buys the account receivables from the client or seller and pays up to 80 to 90% on the basis of the terms and conditions so agreed. The Factor reminds the customer of depicting balance to pay. The follow-ups are also established if the customer does not pay the receivables by the due date. When the payment is made by the customer, then the balance amount after deducting the operating and financial costs amount is paid back to the client by the factor.



**Fig 13.1 Mechanism of Factoring**

### **Types of Factoring**

**Recourse Factoring-** In Recourse factoring, the risk of default is borne by the seller himself or herself. The Factor purchases the receivables on the terms and conditions that if any default arises then it will be borne by the client. The factor is granted with the recourse that if the receivables are irrecoverable then the Factor has an option to sell back such receivables to the seller.

**Non-recourse Factoring-** In non-recourse factoring, the factor undertakes to collect the debts from the customer and the risk of bad debts is passed on by the client to the Factor. Accordingly, since high risks of bad debts are borne by the Factor, therefore factor commission is quite high in Non-recourse factoring. As per Pandey I.M (2007), Non-recourse factoring is very popular in the USA, where it is also known as ‘old-line factoring’. Old line factoring are true factors and they differ from those who merely finance receivables”.

**Advance Factoring-** Advance Factoring can be with recourse and without recourse. Factor advances funds in a form of pre-payment at an agreed rate of interest to the client on uncollected and non-due receivables. The customer is not known to the factoring agreement and the client pays the amount to the Factor on the invoices which have been received by the client. So basically, in advance factoring, the factor advances the funds immediately against debts due to the clients.

**Maturity Factoring-** In Maturity Factoring the payments are given to the client on maturity. Maturity Factoring does not involve financing rather administrative services are provided for the protection of bad debts. The factor manages the sales ledger of the client and pursues the invoices from the buyers for the payments. Further, on the due date, the bad debts are collected by the Factor. In case of non-recourse maturity factoring, payments are made either on maturity or on the insolvency of the customers. However, in case of recourse maturity factoring, the factors pay to the client when the book debts are collected by him or her.

**Bulk/Agency Factoring-** It is used as method of financing book debts. “Under this the client continues to administer credit and operate sales ledger. The factor finances the book debts against bulk either on recourse or without recourse”. (Pandey I.M , page No 691) In other words, it is a variation of Invoice discounting wherein funds are provided by the Factor only after assignment of debts is notified by the seller to the customer with instructions to make the payment to the Factor.

**Bank Participation Factoring-** The floating charges are created by the supplier on the reserves pertaining to factoring also termed as factoring reserves in favour of banks and the funds are borrowed against these reserves. To make it more clear learners, under this type of factoring, the factor makes an arrangement for lending amount to the clients through the banker.

**International Factoring-** International factoring is in context to the export sales. This means this includes factoring services provided for international markets. The export factor looks at financing the exporter and sales administration (presenting invoices at the right time, collecting payments being the key tasks). The import factor is interested in evaluating the buyer, collecting the money on time at the same time ensuring that he is protected against default. It encompasses all the four services, that is, pre-payments, sales ledger administration, credit protection and collections.

**Invoice Discounting-** In this factoring, the Factor purchases receivables or bills from the client and pays money to the client in lieu of bills so purchased. The factor charges interest until the bill amount is collected from the buyer of goods. All the administrative aspects of the account receivables and credit sales are handled by the client himself or herself. However, in specific terms this is not a form of factoring because it does not have service elements as that of factoring.

### **Factoring in India**

Factoring in India has been examined after the constitution of the Kalyanasundaram Study Group by the Reserve Bank of India in January 1988. It was constituted to assess the feasibility and mechanism for the factoring organisations in India. This has led to the provision of domestic factoring services in India. The first two factoring companies which

were set up in India were SBI Factors and Commercial Services Ltd. and Canbank Factors Ltd. which started their operations in 1991.

The Banking Regulation Act, 1949 was also amended to provide the way for entering banks to the business of factoring. Reserve Bank of India issued guidelines permitting the banks to set up separate subsidiaries or invest in factoring companies jointly with other banks. The Act dedicated to the Factoring is Factoring Act and it was framed in the Year 2011 by the Government of India to bring transparency in the legal framework pertaining to Factoring Services in India. The Act has made the Factoring business more viable in terms of granting exemption from stamp duty on documents executed. As per this act, "factor" means a non-banking financial company as defined in clause (f) of section 45-I of the Reserve Bank of India Act, 1934 (2 of 1934) which has been granted a certificate of registration under sub-section (1) of section 3 or anybody corporate established under an Act of Parliament or any State Legislature or any Bank or any company registered under the Companies Act, 1956 (1 of 1956) engaged in the factoring business. It has also made mandatory that no factor shall commence or carry on the factoring business unless it obtains a certificate of registration from the Reserve Bank to commence or carry on the factoring business under this Act. The Act has been divided into seven chapters that specify the norms for Factoring in an exhaustive manner.



### *Check Your Progress- A*

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**Q1. What do you mean by Trade Credit?**

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**Q2. What are the main functions of a Factor?**

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**Q3. Distinguish between Factoring and Bills Discounting.**

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**13.6 NEGOTIATED FINANCE**

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In Negotiated Finance, negotiations need to be established with the financing institutions for example Commercial Bank, Development Banks, General public and other financial institutions. This type of financing can be long term or can be short term. Since, in this unit we would be discussing about working capital finance for development-oriented ventures and other projects therefore, bank credit, commercial paper and loans obtained against receivables or inventories shall be dealt under negotiated financing. Loans from commercial banks are an important source of negotiated short-term financing. However, negotiated financing is generally expensive as compared to spontaneous financing.

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**13.7 COMMERCIAL PAPERS**

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Commercial Papers (CP) are short-term usance promissory notes with have fixed maturity period issued by the firm to raise funds for a short period. This is generally issued for few days to few months by firms that are reputed, established and large corporations having sound turnover and business. It is a money market instrument that is issued by highly rated corporate borrowers to meet their requirements pertaining to working capital and day-to-day production activities. The history of Commercial Papers in India can be traced from 1990 onwards. The introduction of Commercial Papers led to the major transformation in the Indian Money Market and subsequent innovation in the Indian Financial System. Thus, it was introduced in India in 1990 for assisting highly rated corporate borrowers to diversify their sources of short-term borrowings and to provide an additional instrument to investors. Later, primary dealers and All-India Financial Institutions were also permitted to issue CP to

enable them to meet their short-term funding requirements for their operations. Today, commercial paper has become an important instrument for companies to raise the short-term funds from the money market which is hassle-free within the shortest possible time limit without pledging the inventory of raw materials as collateral security and by avoiding the hassles of direct negotiation with the commercial banks for availing the short-term loans.

Earlier, Corporates, primary dealers (PDs) and the All-India Financial Institutions (FIs) were only allowed to issue Commercial Papers but RBI has eased its guidelines and permitted the corporations to issue who fulfill the criteria as specified by RBI.

A corporation is eligible to issue Commercial Paper if it fulfills the following conditions;

- a. the tangible net worth of the company, as per the latest audited balance sheet, is not less than Rs. 4 crore,
- b. company has been sanctioned working capital limit by bank/s or All-India financial institution/s; and
- c. the borrowal account of the company is classified as a Standard Asset by the financing bank/s/ institution/s.

In India, Corporates, primary dealers (PDs) and the All-India Financial Institutions (FIs) are eligible to issue Commercial Papers. These are generally purchased by Commercial banks, money market mutual funds and other financial institutions who are interested to invest their surplus money for short term. It is mandatory for all the participants who are eligible to obtain credit rating for issuance of Commercial Paper either from Credit Rating Information Services of India Ltd. (CRISIL) or the Investment Information and Credit Rating Agency of India Ltd. (ICRA) or the Credit Analysis and Research Ltd. (CARE) or the FITCH Ratings India Pvt. Ltd. or such other credit rating agency (CRA) as may be specified by the Reserve Bank of India from time to time, for the purpose. The minimum credit rating shall be A-2 [As per rating symbol and definition prescribed by Securities and Exchange Board of India (SEBI)]. CP can be issued for maturities between a minimum of 7 days and a maximum of up to one year from the date of issue. However, the maturity date of the CP should not go beyond the date up to which the credit rating of the issuer is valid. The aggregate amount of CP from an issuer shall be within the limit as approved by its Board of Directors or the quantum indicated by the Credit Rating Agency for the specified rating, whichever is lower.

The following are the key advantages of the Commercial papers;

- a) It is quick, hassle-free and cost effective.
- b) It is flexible as it is easy to customize the maturity of the instruments as per the cash inflows.
- c) It provides buyback option to the investors.
- d) It also portrays low reinvestment risk as these are issued for a shorter span.
- e) Due to the shorter time horizon, they do not face larger interest rate fluctuations.
- f) Interest rates are generally lower as required by banks and other finance companies.
- g) Utilization of funds can be as per the requirement of the Issuer.

The following are the disadvantages of the Commercial Papers;

1. Only blue-chip companies that mean companies that are financially sound can only issue Commercial papers.
2. In absolute terms Commercial papers are not risk free as a change in the market interest rates may sometimes lead to default in the payments.

Being the unsecured nature, Commercial Papers are under the purview of the Reserve Bank of India. As per the guidelines issued by RBI in the year 2014, the following are the key aspects for the issue of Commercial papers;

a. CP shall be issued as a 'standalone' product. Further, it would not be obligatory in any manner on the part of the banks and FIs to provide a stand-by facility to the issuers of CP.

b. Banks and FIs may based on their commercial judgment, subject to the prudential norms as applicable to them, with the specific approval of their respective Boards, choose to provide stand-by assistance/credit, back-stop facility etc. by way of credit enhancement for a CP issue.

c. Non-bank entities (including corporates) may provide an unconditional and irrevocable guarantee for credit enhancement for CP issue provided:

- the issuer fulfills the eligibility criteria prescribed for issuance of CP;
- the guarantor has a credit rating at least one notch higher than the issuer given by an approved CRA; and
- the offer document for CP properly discloses the net worth of the guarantor company, the names of the companies to which the guarantor has issued similar guarantees, the extent of the guarantees offered by the guarantor company, and the conditions under which the guarantee will be invoked.

d. The aggregate amount of CP that can be issued by an issuer shall at all times be within the limit as approved by its Board of Directors or the quantum indicated by the CRA for the specified rating, whichever is lower.

e. Banks and FIs shall have the flexibility to fix working capital limits, duly taking into account the resource pattern of company's financing, including CP.

f. An issue of CP by an FI shall be within the overall umbrella limit prescribed in the Master Circular on Resource Raising Norms for FIs, issued by the Reserve Bank of India, Department of Banking Operations and Development, as prescribed/ updated from time-to-time.

g. The total amount of CP proposed to be issued should be raised within a period of two weeks from the date on which the issuer opens the issue for the subscription. CP may be issued on a single date or in parts on different dates provided that in the latter case, each CP shall have the same maturity date.

h. Every issue of CP, and every renewal of a CP, shall be treated as a fresh issue.

Further, the following are the main features of the guidelines relating to the issue of commercial papers in India are presented as below;

- Form- CP shall be issued in the form of a promissory note (as specified in Schedule I to these Guidelines) and held in physical form or in a dematerialized form through any of the depositories approved by and registered with SEBI, provided that all RBI regulated entities can deal in and hold CP only in dematerialized form through such depositories.
- Amount- CP shall be issued in denominations of Rs. 5 lakh and multiples thereof. The amount invested by a single investor should not be less than Rs. 5 lakh (face value).
- Discount to Face Value-CP shall be issued at a discount to face value as may be determined by the issuer. Further, no issuer is allowed to issue CP that is underwritten or co-accepted. Moreover, Options (call/put) are not permitted on CP.
- Tenure-Commercial Papers can be issued for maturities between a minimum of 7 days and a maximum of up to one year from the date of issue. The maturity date of the CP shall not go beyond the date up to which the credit rating of the issuer is valid.
- Procedures and Documentation- Fixed Income Money Market and Derivatives Association of India (FIMMDA) in consonance with international best practices prescribe Standardized procedures and documentation for CPs.
- Trading and Settlement- All OTC trades in CP need to report within 15 minutes of the trade to the reporting platform of Clearcorp Dealing System (India) Ltd. OTC trades in CP have to be settled through the clearing house of the National Stock Exchange (NSE), i.e., the National Securities Clearing Corporation Limited (NSCCL), the clearing house of the Bombay Stock Exchange (BSE), i.e., Indian Clearing Corporation Limited (ICCL), and the clearing house of the MCX-Stock Exchange, i.e., MCX-SX Clearing Corporation Limited (CCL), as per the norms specified by NSCCL, ICCL and CCL from time to time. Further, the settlement cycle for OTC trades in CP shall either be T+0 or T+1.
- Buyback- The commercial papers can be buyback by the Issuers before maturity. The buyback can be initiated through the secondary market and at the prevailing market price. However, the CP shall not be bought back before a minimum period of 7 days from the date of issue. Issuers have to communicate the IPA of the buyback undertaken. Buyback of CPs should be undertaken after taking approval from the Board of Directors.

CP's are issued at a discount to face value and are redeemable at par on maturity. The discount actually is the effective interest rate. This means the issue price of commercial papers is less than the face value. The difference which is stated in the discount is the benefit to the lender in the lieu of the funds provided at the discount rate. The discount on the issue of commercial papers depends upon the amount, maturity period and the prime lending rates of the banks.

The annual financing cost of commercial papers is calculated on the basis of Issue price of Commercial paper and Face Value of Commercial paper. Thus, the effective pre-tax interest yield of commercial paper is calculated as;

$$\frac{\text{Face Value of CP} - \text{Net Amount Realised (Issue Price of CP)}}{\text{Net Amount Realised (Issue Price of CP)}} \times \frac{360}{\text{Maturity Period Of Commercial Paper}} \times 100$$

Let's find the annual financing cost of Commercial paper, if Commercial papers having Face Value of Rs. 3, 00,000 was issued at 2,50,000 for maturity period of 90 days.

So putting the information the formula, the following Annual cost is computed;

$$\frac{3,00,000 - 2,50,000}{2,50,000} \times \frac{360}{90} \times 100$$

$$=28.5\%$$

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## 13.8 BANK CREDIT FOR WORKING CAPITAL

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Bank credit is the credit facility which is provided by the Commercial Banks for the short-term financial assistance required by the business or companies. Perhaps, it is one of the most availed and main institutional short-term finance provided to business firms. Bank credit has been an important and vital source of short-term financing or working capital finance for the majority of business organisations. In general, bank credit is the easy route for funding the working capital needs of the borrowing companies or organisations. However, because of convenience in fetching the bank loans, it has also led to distortions in the allocation of bank resources to the companies. Working capital requirements of a firm are assessed by banks on the grounds like Turnover Method, Maximum Permissible Bank Finance (MPBF) System, Cash Budget System and Net Owned Funds System, depending on the type of activity.

**Letter of Credit** -A letter of credit is a letter provided by the bank which embodies a guarantee of payment by the bank to the seller that in case of default or failure, the bank shall be making payments to the seller. The letter of credit provides non-fund-based financing as it does not require funds in the issue of letter of credit. "It is an arrangement by which the issuing bank, on the instructions of a customer or on own behalf, undertakes to pay or accept or negotiate or authorizes another bank to do so against stipulated documents subject to compliance with specified terms and conditions. The documentary credit is considered as the best payment arrangement since a reputed bank who pays against the presentation of stipulated documents as mentioned in the letter of credit". (Kishore Ravi M., Pg 594). Generally, a pledge of securities or cash collateral is involved in the issue a letter of credit to a holder. Bank can also collect a fee for issuing letters of credit; the fee is usually a

percentage of the size of the letter of credit. As per the Master Circular - Guarantees and Co-acceptances, an Authorised Dealer Category I bank in India may give guarantee or standby Letter of Credit in respect of an obligation incurred by a person resident in India and owed to a person resident outside India in connection with the payment of margin money in respect of approved commodity hedging transaction of such person residing in India subject to terms and conditions as may be stipulated by the Reserve Bank from time to time.

**Working Capital Loan-** Working capital loan is provided by the bank through a demand loan account or separable non-operable cash credit account when a client requires an additional funds in excess of the sanctioned credit limit. In a working capital loan, a borrower has to pay additional amount as a high rate of interest on additional credit so availed. This loan is generally availed by the seasonal business, which may require more inventory or need additional marketing and advertising expenses for spending at the time of peak season.

**Bank Overdraft-** It also a way of availing credit from the bank where an amount is borrowed by the firm from its current account. The bank allows firm to withdraw over and above the balance in the current account but the amount is specified by the bank. The maximum amount allowed is calculated mainly on basis of financial statements and security. It is also one of the flexible ways of availing funds as the withdrawal and payments can be made as per the ease of the borrower. The bank charges a fee for providing this facility and interest is charged on the excess amount that is withdrawn for the length of the time. Since the interest is calculated only on a number of funds utilized, there are great savings in the interest cost when compared to a normal loan which is taken on a fixed interest rate. Bank overdraft is at times may be permitted on the basis of collateral securities.

The amount of an overdraft at any one time will depend on the cash flows of the business, the timing of receipts and payments, seasonal trends in the sales and so on.

If the business finds that an overdraft facility appears to be becoming a long-term feature of the business, the bank may suggest converting the overdraft into a medium-term loan.

### **Cash Credit**

Cash credit is a loan limit that is sanctioned by the bank as a short-term loan to the company and the company or the firm can withdraw the amount at any time but within the limit so fixed. The interest is charged at the specific rate for the specific period on the amount so withdrawn. The amount can be repaid after submitting to the respective account. It is generally given against collateral security, generally against the security of current assets. These funds can also be recalled by the bank in case of adverse circumstances. As per the Master Circular of RBI dated July 1, 2015, for Loans and Advances – Statutory and Other Restrictions, it is mandated that the borrowers enjoying working capital credit limits of Rupees ten crore and above from the banking system, the loan component should normally be 80 percent. Banks, however, have the freedom to change the composition of working capital by increasing the cash credit component beyond 20 percent or to increase the ‘Loan Component’ beyond 80 percent, as the case may be, if they so desire. Banks are expected to

appropriately price each of the two components of working capital finance, taking into account the impact of such decisions on their cash and liquidity management. Further, in the case of borrowers enjoying working capital credit limit of less than Rupees ten crore, banks may persuade them to go in for the 'Loan System' by offering an incentive in the form of lower rate of interest on the loan component, as compared to the cash credit component. The actual percentage of 'loan component' in these cases may be settled by the bank with its borrower clients.

Moreover, as per the Master Circular on Management of Advances Urban Cooperative Banks (UCBs), the RBI has laid the following provisions in the year 2013-14 for borrowers enjoying working capital credit limits of Rs. 10 crore and above from the banking system, the loan component should normally be 80% and the remaining Cash Credit component. UCBs have been given freedom to change the composition of working capital by increasing the cash credit component beyond 20 per cent or increase the loan component beyond 80 per cent, as the case may be, if they so desire. Further, the release of ad hoc / additional credit for meeting temporary requirements may be considered by the financing bank only after the borrower has fully utilised / exhausted the existing limit.

The working capital (WC) fund-based requirement of borrowers, other than SSI units, upto Rs. 1.00 crore and SSI units upto Rs. 5.00 crore from the banking system can be made on the basis of projected turnover. The WC is computed at 25% of the projected gross annual turnover (incl. excise duty) of which at least 4/5th (i.e. 20% ) can be made by bank as WC finance and the balance 1/5th (i.e. 5%) is to be contributed by the borrower as Net Working Capital (margin) towards WC.

**Line of Credit-** It is a commitment by a bank for an arranged amount of standing credit that a bank's customer may draw upon at any time. The bank allowing line of credit charges additional cost over the normal rate of interest as the funds shall be made available to a customer for his/her requirement at all times. It is generally extended to creditworthy customers to address liquidity problems.

### **Security required in Bank Finance**

**Hypothecation-** In hypothecation, a loan is provided against the security of a movable property. The borrower retains ownership of the collateral, but the lender has the right to seize ownership if the borrower defaults. Thus, the ownership and the physical possession of the property remain with the borrower. In case of default, the lender claims its ownership, takes possession of the security and sells it to meet the loans granted. It includes the security of a movable property.

**Pledge-** Pledge is used when the goods and property which are movable in nature are provided as the security to the bank that is pledgee and he/she retains the possession of the goods until the pledgor (i.e., borrower) repays the entire debt amount. The property may

include certificates, goods, investment certificates, gold, jewellery etc. In case of non-repayment of loan or credit, the security is realised by the bank to recover the loan including principal and interest.

**Mortgage-** Mortgage is the transfer of immovable property to the lender against the debt provided. Immovable property like land, building, machinery etc. is provided as security. The agreement in mortgage specifying the transfer is called as a Mortgage Deed. The loan is secured on the borrower's property. The borrower is known as mortgagor and the lender is termed as mortgagee. In case of default the lender takes possession and sell the secured property.

**Lien-** Lien denotes the official claim or charge of a lender for a property provided by the borrower against the debt to secure the payment of a debt or ensure completion of obligation. The owner of the property, who grants the lien, is referred to as the lienee and the person who has the benefit of the lien is referred to as the lien or lien holder. A lien carries with it the right to sell property, if necessary, to obtain the money.

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## 13.9 OTHER SOURCES OF WORKING CAPITAL FINANCE

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**Forfaiting-**Forfaiting is a form of medium-term financing of international trade. It involves the purchase of receivables by a bank which is a Forfaiter from the exporter. The bank purchases series of promissory notes which is due at 6 months interval for 3 to 5 years which is signed by an importer in favour of an exporter. These notes are frequently availed, or guaranteed, by the importer's bank. The promissory notes are sold by the exporter to the bank which forfeited at a discount. The payment is made by the bank to the exporter which supports him/her to finance for the production of goods and services for exports and later it can be paid by the importer. The Forfaiter takes on all the risks associated with the receivables but earns a margin. Thus, the exporter forgoes his/her right to receive payments from the importer at later date and surrenders the right to collect payment to a third party or agency (known as forfaiter) without recourse to the exporter. The basic difference between forfaiting and discounting of bills that in discounting exporter is open to recourse in cases of non-clearance of dues however this source of finance is without recourse financing in which the exporter passes on his debts as well as attendant risks to the forfaiting agency. Factoring is also about the purchase of financial assets but it involves the sale of a part of a firm's receivables however forfaiting is open for 100 percent of the payment amount. Export-Import Bank of India (EXIM Bank) and AD Category – I Banks have been permitted to undertake forfaiting, for the financing of export receivables. Remittance of commitment fee / service charges, etc., payable by the exporter as approved by the EXIM Bank / AD Category – I

banks concerned may be done through an AD bank. Such remittances may be made in advance in one lump sum or at monthly intervals as approved by the authority concerned.

**Inter Corporate Deposit-** Inter Corporate Deposit is the most common practice followed by companies for lending funds for the short term. It is the deposit that is provided by a company having surplus funds to the company who is need for maximum of six months. The ICD are generally unsecured and are arranged by financiers. This is also a convenient source of short-term financing. Thus, it is a provision in which cash-affluence companies provide funds as loans to the cash indigent companies. However, interest rates on such funds are higher than a bank as risk involvement is quite high in such deposits. In the Companies Act, 1956 Section 372-A deals with inter-corporate loans and investments. Section 372A came into existence after merging Section 370 and 372- A which gave the company a liberal approach in giving inter corporate deposits. The Companies Act, 2013 incorporated Section 186 which deals with loans and investments and corresponds with Section 372-A of the Companies Act, 1956. As per Section 186 which pertains to loans and investments, it is stated that a Company shall unless otherwise prescribed, make the investment through not more than two layers of Investment Companies. Provided that the above restriction is not applicable in the following cases; (i) a company from acquiring any other company incorporated in a country outside India if such other company has investment subsidiaries beyond two layers as per the laws of such country; (ii) a subsidiary company from having any investment subsidiary for the purposes of meeting the requirements under any law or under any rule or regulation framed under any law for the time being in force. Section 372 specifies transactions as Loan to any Other Body Corporate, Guarantee to any Body Corporate, Security in connection with a loan to Body Corporate and Acquire by way of subscription, purchase or otherwise, the securities of any other body corporate whereas Section 186 of Companies Act, 2013 specifies transactions as Loan to any Person, Loan to any Body Corporate, Guarantee to any Person, Guarantee to any Body Corporate, Security in connection with a loan to Person, Security in connection with a loan to Body Corporate and acquire by way of subscription, purchase or otherwise, the securities of any other body corporate.

### **Interest Rate Swaps**

It is the agreement between parties to exchange cash flow stream of future interest payments are exchanged for some definite principal amount. This depicts the exchange of fixed rate of interest for floating rate or floating rate of interest for a fixed rate. The main objective is to either reduce or increase exposure to fluctuations in interest rates or to achieve a lower interest rate that is not possible without the swap opportunity. The exchange of interest obligations that is debt-related to interest rates between two parties is termed as liability swap . In Liability Swap, two currently identical (in nominal value) cash flows are exchanged. When there is exchange in interest income then it is termed as asset swap.

As per Reserve Bank of India Notification having Ref No.MPD.BC.187/07.01.279/1999-2000 “An Interest Rate Swap (IRS) is a financial contract between two parties exchanging or swapping a stream of interest payments for a ‘notional principal’ amount on multiple occasions during a specified period. Such contracts generally involve exchange of the ‘fixed to floating’ or ‘floating to floating rates of interest. Accordingly, on each payment date - that occurs during the swap period - cash payments based on fixed/ floating and floating rates, are made by the parties to one another.”

The most common Interest Rate Swaps are currency swaps, cross currency interest rate swaps, Interest rate Swaps etc. Further, the Simple Interest rate swaps are known as Plain Vanilla Swaps. It is also termed as Generic Swaps. In these swaps, fixed rate obligations are exchanged for floating rate obligations at a predetermined interest on a notional principal on specific dates for a specified period of time. In a plain vanilla swap, the two cash flows are paid in the same currency. The specified payment dates are called settlement dates, and the time between are called settlement periods.

**Forward Rate Agreement** – It is a forward contract where parties agree to borrow or lend a certain amount of money at a fixed rate on a future date. This is also termed as a future rate agreement. Forward Rate Agreements are assessed to be more flexible as they are the structure for maturity for a particular date. In general, FRAs are traded on the future level of 3- or 6-month Libor. As per Reserve Bank of India Notification having Ref.No.MPD.BC.187/07.01.279/1999-2000, “A Forward Rate Agreement (FRA) is a financial contract between two parties to exchange interest payments for a ‘notional principal’ amount on settlement date, for a specified period from the start date to maturity date. Accordingly, on the settlement date, cash payments based on contract (fixed) and the settlement rate, are made by the parties to one another. The settlement rate is the agreed bench-mark/ reference rate prevailing on the settlement date.” Therefore, the agreement terms include the notional principal amount, fixed interest rate (FRA rate), the reference interest rate, settlement date and maturity date of the notional loan. Further, the principal amount is only notional and the interest differential is only exchanged on the basis of the initial FRA rate and the prevailing floating reference rate at the time of settlement is exchanged on the settlement date.



**Check Your Progress- B**

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**Q1. Mention in your own words, key advantages and disadvantages of raising working capital funds from commercial papers.**

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**Q2. List few characteristics of Inter Corporate Deposit.**

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**Q3. What is the importance of availing Bank Credit as source for funding working capital requirements?**

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**Q4. Differentiate between Factoring and Forfaiting**

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**13.10 SUMMARY**

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This unit has introduced us to the conceptual understanding of working capital management and short-term financing. This unit also explained that the gross working capital is the total of all current assets employed in the business whereas net working capital is the difference between current assets and current liabilities. In this unit, we also turn to the financing side of these patterns of the current assets and learned about the peculiarities of various sources of funds which can be availed for making the investment in current assets. Various contemporary approaches for financing working capital have also evolved for providing easy access to working capital under project financing. However, other conventional methods such as bill discounting, trade credit, bank credit are also opted for matching the requirements of the project.




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## 13.11 GLOSSARY

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**Net Working Capital:** It may be defined as the excess of current assets over current liabilities.

**Credit Terms:** It refers to the terms under which a firm sells goods on credit to its customers.

**Interest Rate Swaps** -It is the agreement between parties to exchange cash flow stream of future interest payments are exchanged for some definite principal amount.

**Line of credit-** It is a commitment by a bank for an arranged amount of standing credit that a bank's customer may draw upon at any time.

**Factoring-**Factoring is the continuing financial arrangement between the financial institution called a Factor and the Seller termed as Client. In this arrangement, client sells account receivable or debt at a discount to the Factor. Factor as an agent collects the dues of his client for a charge in terms of fees.




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## 13.15 TERMINAL QUESTIONS

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- Q1. What are the various sources of spontaneous finance that can be made available for the Project Manger?
- Q2. What are the various negotiated sources of working capital in India?
- Q3. What is the importance of Factoring and also enumerate the functions of a Factor?
- Q4. List the various types of factoring.
- Q5. What are the various components of working capital?
- Q6. What do you mean by Commercial Papers? Which types of companies can issue commercial papers in India?
- Q7. From the standpoint of Project Manager, is the Trade Credit risker? Elaborate using examples.
- Q8. Distinguish between Factoring and Forfaiting.



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## 13.16 WEB EXERCISES

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Go to website of any company that has completed its Project. Study its balance sheet;

- i) Using the information, you gathered, assess their sources of finance for working capital.

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## **UNIT 14 PROJECT FINANCE - TAXATION AND INCENTIVES**

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### **14.1 Introduction**

### **14.2 Objectives**

### **14.3 Fundamentals of Tax Incentives**

### **14.4 Incentives and Tax Holiday for Power Sector**

### **14.5 Incentives and Tax Holiday for Natural Gas Distribution Network**

### **14.6 Incentives for Infrastructure Sector in Budget 2016: A Reference**

### **14.7 Service Tax Exemption and Mechanism for Grant of Incentives**

### **14.8 Incentives for Renewable Energy Sector**

### **14.9 Tax Incentives for Infrastructure Financing**

### **14.10 Summary**

### **14.11 Glossary**

### **14.12 References**

### **14.13 Suggested Readings**

### **14.14 Terminal and Model Questions**

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## **14.1 INTRODUCTION**

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In the previous units, the focus was more on the technical aspects of projects. In this unit, you will learn about various incentives schemes and tax holiday provided to different type of projects in India. These incentives are very important for the progress and development of infrastructure related projects. It also helps in setting up of sustainable energy related sectors like solar energy, wind energy etc. These projects in turn help country grow faster.

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## **14.2 OBJECTIVE**

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After reading this unit you will be able to ;

- Understand the pros and cons of tax incentives.
- Incentives and tax holiday for power sector in India.
- Incentives and tax holiday for natural gas distribution network in India.
- Mechanism for grant of incentives .
- Various service tax exemptions.

- Tax incentives for infrastructure financing:
- National Solar Mission and various incentives for Solar energy sector.

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### **14.3 FUNDAMENTALS OF TAX INCENTIVES**

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Infrastructure plays an important role in economy growth. Private sector participation in infrastructure development is very important because it requires huge capital investments. Tax incentives play a significant role in attracting investments. Tax incentives are provided only to a selected group of taxpayers and, therefore, it is considered as preferential tax treatments which are different from the general tax structure. When tax incentives are provided to all taxpayers, regardless of their business lines, nationalities, investment, and business locations, it is not called a tax incentive but it is an integral part of the general tax structure.

Tax incentives have always been advocated to mitigate a market failure associated with the externality of certain economic activities (e.g., research and development). Apart from this justification, tax incentives are often a result of policymakers' ad hoc judgment on their jurisdiction's need. To these policy makers, a selected group of taxpayers are so crucial to national or regional economic growth that they deserve an exclusive tax break.

It is important to see the fundamentals of taxation whenever we judge the merit or demerit of tax incentives. The main aim of imposing tax is to raise revenue to fund government functions and to enhance social welfare. And the ultimate tax base is increases with the increase in GDP growth, or value added by all types of economic activities in the form of investment returns, labor compensation, or consumption drawn from investment and labor incomes. Therefore, if the tax incentives are provided to selected economic activities, knowing that it can hurt the tax base, it is because of the expectation that it will increase the GDP in the long run. So we can say that a tax incentive program is very important and it ultimately lead to economic growth and higher tax base.

Furthermore, government is very powerful in exerting the taxation policy, which unavoidably deteriorates the market efficiency. The main task of the government is also to redistribute the income level of the people. This makes taxation more complex that burdens both tax administration and taxpayers. It is because of that the Economists have established three principles for an optimal tax structure. They are as follows:

- i) Principles of Efficiency: It is meant to minimize tax distortion to resource allocation by market forces.
- ii) Principles of Equity: It is meant to ensure that tax is levied as per the ability to pay.
- iii) Principles of Simplicity: It is meant to minimize both administration and compliance cost.

### 14.3.1 DEMERITS OF TAX INCENTIVES:

Tax incentives have certain demerits also. It provides discretionary power to legislators wherein they can give incentives to certain segment of the industry or certain segment of geography. In general it violates some of these principles because of which it is criticized very much. These violations are as under.

- a) It has been observed that certain government provides tax incentives to certain group of entities. Because of which, the efficiency principle is violated. It leads to lowering the cost of manufacturing of some entity below average of the market manufacturing cost. This type of tax incentives give the benefit to some and put others in disadvantages position. These policies hamper the long term economic growth and transformation.
- b) Principle of equity is also violated when tax incentives are given to certain segment of the industry or entity. It has been observed that many times the policy makers are influenced by some business houses and provide them with the tax incentives. It leads to, many time the tax evasion also.
- c) Tax structure should be simple in understanding and implementation. Whenever, tax incentives are provided to some industry or some specific locations then it creates the administrative complexity. This violates the simplicity principle.

Through different studies, it has been found that these violations of optimal tax principles also incurs significant costs of tax incentives other than reducing the tax base.

Then, the question rises why these tax incentives never die do? And why did tax incentives even become more popular in both developing as well as developed nations?

### 14.3.2 MERITS OF TAX INCENTIVES:

There are some merits of tax incentives also. These merits force government and policy makers to continue with these schemes. These are outline as under.

1. Tax incentives are provided to those projects which have the potential to enhance the income generating ability of local peoples, creates jobs, provide better road and health care etc. However, these benefits never comes free of cots. It increases the cost of the projects where the private investors have put their money in. Therefore, it is imperative that the government should provide these projects tax incentives so that these projects can recover its additional cost.
2. Telecom, digital payment, technology etc. that are highly capital intensive should be promoted with tax incentives so that they are affected by the small changes in taxations.
3. There are certain areas which are very backward due to its geographical conditions. That make the life of people over there really tough. Tax incentives to particular location may help generate more benefits to the society at large living in that location.
4. Politicians often become judgmental in deciding on whom to give tax incentives which are beneficial to society and whom to avoid. They may also feel obliged to subsidize a given significant economic player during sector's downturn.

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## **14.4 INCENTIVES AND TAX HOLIDAY FOR POWER SECTOR**

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Government of India, in some of its recent budgets, has announced various schemes and incentives to promote infrastructure related projects in India. Some of these schemes and incentives have discussed in the following sections.

In the budget presented in the year 2008, undertaking engaged in the business of generation of power or generation and distribution of power have been given maximum tax incentives. These sectors got 100% tax holiday. These business were primarily into business of laying a network of new transmission or distribution lines. The budget also proposed to provide incentives to those entity which are into substantial renovation and modernization of the existing network of transmission or distribution lines.

Before 2008, the power sector companies were liable to pay Minimum Alternate Tax (MAT) on their book profit which was diluting the tax holiday incentive. Therefore, budget 2008 proposed changes in the calculation of book profit for these companies.

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## **14.5 INCENTIVES AND TAX HOLIDAY FOR NATURAL GAS DISTRIBUTION NETWORK**

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In the budget presented in the year 2008, undertaking engaged in the business of laying and operating a cross-country natural gas distribution network, including pipelines and storage facilities being an integral part of such network have also been given tax holiday. These industries receive 100% tax holiday from profits and gains.

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## **14.6 INCENTIVES FOR INFRASTRUCTURE SECTOR IN BUDGET 2016: A REFERENCE**

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Finance Minister Mr. Arun Jaitley, in his budget of 2016, introduced a new incentive for the infrastructure sector. The purpose of this type of incentives was to boost the overall investment from private sector crucial for economic growth.

Under this budget, the scope of Section 35AD of the Income Tax Act had been increased. Various infra related sectors like construction of toll roads, sea ports, airports, bridges, railway systems, highway projects and water supply and irrigation projects have been included under Section 35AD of the Income Tax Act. This section allows deduction of capital expenditure incurred on these activities from the earnings while calculating taxable income in the subsequent year. The benefit, called investment-linked deduction, helps companies defer tax payments to future years.

This budget also provides benefit to sector like laying cross-country natural gas pipelines, setting up fertilizer units, hospitals with minimum 100 beds, affordable housing projects and inland container depots.

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## **14.7 SERVICE TAX EXEMPTION AND MECHANISM FOR GRANT OF INCENTIVES**

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Some of the Infrastructure projects have been given exemption in service tax. These sectors are roads, airports, railways, transport terminal. However, there are some critical infrastructure projects that have not been exempted. These projects are petroleum operations, setting up refinery and power projects etc. It is recommended that these sectors should be included in the tax exemption net. In addition, the service providers of such industry should also be given the tax exemption.

Services consumed by SEZ (Special Economic Zone) has also got the benefit of tax exemption. It has been given, due to certain procedural inefficiencies at the implementation level. This exemption does not come free of cost. It actually leads to the loss of input tax credit to the service providers. Therefore, it is recommended that wherever the exemptions are granted, the service providers should be allowed to avail the input tax credit.

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## **14.8 INCENTIVES FOR RENEWABLE ENERGY SECTOR**

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Renewable energy sector in India has huge scope for growth in the coming decades. This sector has shown an impressive growth in India in the last one decade. The government has allowed Foreign Direct Investment (FDI) up to 100 percent in the clean energy sector under the automatic route in renewable energy generation and distribution projects that are subject to the provisions of the Electricity Act of 2003. As per this act, foreign investors are not required to take prior approval of regulatory authorities for infusion of foreign investment. Limited liability partnership (LLP) were not given free asses to FDI and they need to take prior approval for the same.

In order to facilitate the domestic companies to invest in the clean energy sector, Reserve Bank of India (RBI) has allowed external commercial borrowings (ECBs). Which means that the companies from these sectors can raise low cost funds from other countries. The scope of clean energy sector were also increased. The companies which are into sectors like electricity generation/transmission/distribution, oil pipelines, oil/gas/liquefied natural gas (LNG) storage facilities, and gas pipelines that support gas distribution networks for cities have also come under the definition of infrastructure sector.

### **14.8.1 FINANCING OF RENEWABLE ENERGY:**

The central government has created a new regulatory agency called “The Indian Renewable Energy Development Agency (IREDA)”. The main purpose of establishing this type of agency was to promote and finance renewable energy projects. It has been established under the Ministry of New and Renewable Energy (MNRE) as a specialized financing agency.

## **14.8.2 DOMESTIC INCOME TAX LAW: TAX HOLIDAY AND INCENTIVES**

Tax holiday have been allowed to companies which are involved in the generation or generation and distribution of power for renewable energy plants if power generation begins before 31 March 2017. This tax holiday is available for a period of 10-years. Though, these companies are supposed to pay a minimum alternative tax at the rate of approximately 20 percent. However, this MAT payment can be later offset over the next 10 years.

Mr. P. Chidambaram, former Finance Minister, in his budget had proposed the Direct Taxes Code, 2013 (DTC 2013) for public discussion/comments. Under this DTC 2013, he had proposed to create the mechanisms for providing tax incentive to power companies.

### **14.8.2.1 Various Operating Subsidies**

#### **Generation Based Incentives (GBI)**

Central Government, in its recent budget has taken several initiatives to attract FDI. One such initiative is called Generation Based Incentives (GBI) schemes. This is applicable for companies which are into wind and solar power energy producing sector.

Generation Based Incentive scheme are different from tax holiday incentives. Under GBI, the subsidies are provided to companies on each unit of power is produced. They are also eligible for availing the Accelerated Depreciation benefit, which were not available earlier. Under subsidised schemes, these power companies are eligible for an incentive of INR 0.50 per unit of power fed to the grid for a minimum period of 4 years and a maximum period of 10 years. This is subject to a ceiling of INR10 million per MW.

This incentive is proposed under IREDA. Under this this scheme, the incentives can be claimed by wind projects commissioned on or after 1 April 2012.

So for example, If the State Electricity Regulatory Commissions (SERCs) has approved the tariff of Rs 4 per unit of electricity then these companies will be entitled to receive Rs 4.5 from selling electricity to consumer.

#### **Accelerated depreciation**

Accelerated depreciation means that the company can claim for higher depreciation benefit in the initial years of its operation, which will reduce the tax outgo in the initial years of its operation. Income-tax law of India provides accelerated depreciation at 80 percent on a written down value (WDV) basis to those companies, which are into renewable energy such as solar and wind. However, there is restriction for the claim. A company can not claim both these incentives together. This means that they can claim either accelerated depreciation or generation-based incentives (GBIs) but not both.

### 14.8.2.2 Renewable Purchase Obligation (RPO)

In order to increase the uses of renewable energy in India, The National Action Plan on Climate Change (NAPCC) is established. According to this plan, India is going to increase the renewable energy penetration to 15 percent by 2020. To achieve this target, Renewable Purchase Obligations (RPOs) are set in by SERCs. This obligation forces distribution companies purchase certain percentage of their total power requirement from renewable energy sources. If you look at the current scenario, the state-level Renewable Purchase Obligations vary somewhere between 2 percent and 14 percent of their total energy demand. This obligation is also applicable on those companies, which come under open access and captive consumers' category.

### 14.8.2.3 Some More Information

#### Renewable Energy Scenario in India

The production of Renewable Energy in India is at a nascent stage. As per the recent estimates ( June, 2015), the total grid-connected renewable energy capacity has reached 36.5 GW. Out of 36.5 GW, the wind energy contributes around 65% at 23.8 GW and solar energy at 4.1 GW (MNRE). Solar energy is one of the area where the central government quite bullish about. The government has set an ambitious plan to scale up India's solar energy capacity to 100 GW and wind energy capacity to 60 MW by 2022. In the year 2010, Jawaharlal Nehru National Solar Mission (JNNSM) was launched with a mission to become global leader in producing and consuming solar power. Initially it had set target to achieve the production 20 GW by 2022. However, MNRE has recently revised the National Solar Mission target from 20 GW by 2022 to 100 GW by 2022. Large-scale rooftop projects are one of the pioneering projects launched by the ministry of power. It has set the target of achieving a capacity of 40 GW by 2022. You might have read in the recent newspaper that many solar power parks are going to be established in Rajasthan, Madhya Pradesh, Andhra Pradesh etc.

#### Fiscal Incentives:

The project relating to renewable energy requires substantial capital investment. Cost structures comes under the head engineering procurement and construction (EPC) project costs. However, the cost of the tax on these projects are also quite high. In some cases, it ranges from 10 percent to 20 percent of the total renewable energy project cost. This need to be reduced to make the project viable and attractive for private investor. In India, the Central Government has offered various fiscal incentives for developing renewable energy power projects. For example- custom and excise duty are exempted on specific goods required for setting up these projects.

However, these exemptions come with some restrictions. They have to follow certain conditions to get these advantages. Apart from Central Government, some of the State Governments have also provided these fiscal incentives. For example- some states have reduced VAT rate from 15 percent to 5 percent.

### Planning of Taxes:

Various Governments- Central as well as States have given various incentives in the form of Tax holiday, Subsidies, Fiscal incentives etc. So, it becomes imperative for any investor to go through the entire ranges of incentives and plan for its investment in those sectors that offer them best trade off in terms of risk and return. It is also important for those investors who are from other countries and are planning to invest in India. There are certain tax havens where India has some tax treaty. This tax treaty also helps many foreign investors to achieve tax efficiency with regard to taxability of gains on sale of shares.

India is not self-sufficient in producing components of renewable energy sector, Therefore, companies engaged in Renewable energy sector purchases these equipment and services from overseas. Under such scenario, contract structuring play a very important role in achieving major tax efficiency for renewable energy producer.

India offers various forms of entities that can be established for doing business in renewable energy sector. Limited Liability Partnership (LLP) is one such option that is very popular among foreign companies who wish to form a joint venture or wish to create a wholly owned subsidiary.

Further, as we know that the renewable energy sector is capital intensive, therefore, companies need to carefully explore the options available for funding their projects and repatriating profits in a tax-efficient manner.



#### *Check Your Progress- A*

**Q1. What are recent changes in the corporate tax structure ?**

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**Q2. How Tax holiday is associated with Special Economic zones?**

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## 14.9 TAX INCENTIVES FOR INFRASTRUCTURE FINANCING

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Faced with weak debt markets, many developing countries have sought to use tax incentives to stimulate a larger flow of domestic savings to infrastructure development. A wide variety of incentives are in use in many countries:

Tax holiday for the profits of private sector infrastructure projects are the most popular incentive available in China, India, and Thailand. Though this instrument is not specifically meant to benefit domestic debt financing. However, it enables project to compete more effectively with other claimants for scarce domestic debt and improves project profitability. The additional cash flow generated from tax savings enables the project to sustain larger debt service payments. Hence, it enables to manage financing with shorter maturities where long-term debt is scarce. Individual also get incentives in the form exemptions if they hold equity or equity related products. In India, for example, long-term savings by individuals in the form of premiums for life insurance policies or contributions to the Provident Fund benefit from a tax exemption under Section 80C. This incentive has been further extended to investments in the shares or bonds of infrastructure projects. In a similar way, capital gains on sale of shares have been exempted from taxation if the proceeds are invested in equity or debt instruments issued by infrastructure projects.

Tax incentives can also be aimed at financial intermediaries. In India, the financial institutions are encouraged to provide long-term finance for infrastructure. Financial institutions are allowed 40 percent of the profit attributable to such loans to be deducted from income in computing taxable income. Tax incentives are criticized by purists on the grounds that they are indirect subsidies, which are usually not justifiable. But it attracts private investment in early stage of investment and therefore should be promoted. There may be a concern that the investor can get a windfall profit through tax incentives. But that can be met by ensuring a process of competition in fixing tariffs or license fees. Within such a framework tax incentives essentially allow private investors to provide services at lower cost to the consumer than would otherwise be not possible. It also gives a level playing field for private investors when they receive these tax subsidies as their counterpart public sector suppliers benefit from various hidden subsidies (such as low-cost loans from the budget or provision of government equity on which a commercial rate of return is rarely earned or even planned for).

### 14.9.1 THE ROLE OF GOVERNMENT GUARANTEES

The government guarantees is a general issue that arises in the context of financing private sector infrastructure projects. It is related with Private investors seek guarantees to cover a variety of circumstances. However, too much of government's guarantee power is not justifiable. It may involves a potential cost to the exchequer that becomes a real cost if the guarantee is invoked. Many projects that face financing problems are denied finance because of genuine deficiencies in financial viability. In such cases, the deficiencies must be remedied at the source rather than being covered by government guarantees.

Though in some occasion, the extension of government guarantees becomes necessary and appropriate. The government guarantee should be used in those area where the government has full control, such as nationalization, government action that forces interruption of the project, or nonperformance of specific government obligations. In all these cases extension of government guarantees reduces the perception of risk and therefore costs. Government guarantees may also be sought to backstop obligations of government-controlled entities when the guarantees of these entities are not commercially acceptable. For example, when private power producers selling power to public utilities, they may insist on guarantees from the government to cover nonpayment for power. They may also expect the government to backstop guarantees of public sector fuel suppliers against defaults in fuel supply agreements. In both these cases, because of the lack of financial credibility of the buying and supplying organizations directly involved, government guarantees are insisted upon. This transformation is bound to take time. In fact, it may take many years for these organizations gain full financial credibility in financial markets once a credible restructuring process has been initiated. During this period the guarantees of these organizations is generally not acceptable, and government guarantees may have to be provided as an interim arrangement. Extension of government guarantees in these circumstances is justified provided the projects meet high standards of viability and the more fundamental corrective steps are under way.

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## 14.10 SUMMARY

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In this unit we have discussed the fundamentals of Tax Incentives and its merits and demerits for the economy. We also critically examined and commented on the recent policy which is relevant for the growth of infrastructure sectors. In order to incentivize private sector participation in infrastructure projects, State Governments need to extend the exemption from state levies like VAT, Entry Tax and Stamp Duty etc. for these projects. There is urgent need that authorities at Central and State level work in tandem to achieve the objective of overall infrastructure development. In a nutshell, a holistic approach towards granting incentive to infrastructure projects is required to take India to a high growth trajectory.



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## 14.11 GLOSSARY

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**Accelerated Depreciation Benefit:** UNDER THIS METHOD OF DEPRECIATION Companies write off their assets faster in earlier years than the straight-line depreciation method and to write off a smaller amount in the later years. Hence it provides better tax shield to company.

**Capital Expenditure:** It is funds used by a company to purchase, modernize or replace physical assets such as buildings or equipment.

**External Commercial Borrowings (ECBs):** External Commercial Borrowings is foreign source of fund. Under this, company raise or borrow money in foreign currency from other countries.

**Engineering Procurement and Construction (EPC):** A particular form of contracting arrangement used in some industries where the EPC Contractor is made responsible for all the activities from design, procurement, construction, to commissioning and handover of the project to the End-User or Owner.

**Input Tax Credit:** *Input tax credit* is the credit a manufacturer receives for paying input taxes when it consumes or buy input from other suppliers.

**Minimum Alternate Tax (MAT):** MAT is a way of making companies pay minimum amount of tax. Section 115JA deals with this MAT and was introduced from year 1997-98. The current MAT is 18.5%.

**Special Purpose Vehicles (SPV):** A *special purpose vehicle/entity (SPV/SPE)* is created for generally to execute the infrastructure project. Under this arrangement, project never get hampered even if the parent company goes bankrupt.

**Tax Evasion: If a person or an organization** intentionally avoids paying its true *tax liability it is called tax evasion. It is an illegal practice under the Indian law and charged with criminal proceedings.*

**Value Added Tax (VAT):** It also goods and services tax (GST) in some countries, is a type of general consumption tax that is collected incrementally, based on the value added, at each stage of production and is usually implemented as a destination-based tax, where the tax rate is based on the location of the customer.

**Written Down Value (WDV):** IN THIS METHOD, depreciation is charged on the book *value* of the asset. As the book *value* keeps on reducing by the annual charge of depreciation, it is also known as reducing balance method.



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### 14.13 SUGGESTED READINGS

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2. Project Management, Dennis Lock, Gower
3. Managing Project Risk by Chong, Pearson Education.
4. Total Project Management, P.K.Joy, Macmillan
5. International Project Analysis and Financing, Gerald Pollio, Macmillan Business
6. Corporate Finance, A. Damodaran, Wiley



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### 14.14 TERMINAL QUESTIONS

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- Q1. Discuss the pros and cons of Tax Incentives in an economy.
- Q2. Discuss various incentives provided to the infrastructure sectors by the central government of India in its recent budget.
- Q3. What is the road map for the Solar Energy Mission of India? Discuss various incentives proposed by the central government to solar energy sector.

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## **UNIT15 EXPORT CREDIT AGENCIES AND DEVELOPMENT FINANCE INSTITUTIONS**

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### **15.1 Introduction**

### **15.2 Objectives**

### **15.3 Export Credit Agencies (ECA)**

### **15.4 Development Finance Institutions**

### **15.5 Summary**

### **15.6 Glossary**

### **15.7 References**

### **15.8 Suggested Readings**

### **15.9 Terminal and Model Questions**

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## **15.1 INTRODUCTION**

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In the previous units, the focus was on various incentives schemes and tax holiday provided to different type of projects in India. In this unit, you will learn about the Export Credit Agencies and Development Finance Institutions. In order to promote exports and infrastructure sectors, these Institutions are very important and act as catalyst for the growth of an economy.

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## **15.2 OBJECTIVES**

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After reading this unit you will be able to ;

- Understand the functions of Export Credit Guarantee Corporation (ECGC)
- Understand the structure and functions of Industrial Finance Corporation of India Ltd. (IFCI)
- Understand the structure and functions of Small Industrial Development Bank of India (SIDBI)
- Understand the structure and functions of Export Import Bank of India (EXIM)
- Understand the structure and functions of National Bank For Agriculture & Rural Development (NABARD)
- Understand the structure and functions of State Finance Corporations (SFCs)

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## 15.3 EXPORT CREDIT AGENCIES (ECA)

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ECA acts as an intermediary between national governments and exporters to issue export financing. It is also an investment insurance agency and is considered as a private or quasi-governmental institution. It provides financing which can take the form of financial support or credit insurance and guarantees or both, depending on what mandate the ECA has been given by its government. This is somewhat similar to normal banking activities. There are some agencies which are government-sponsored, while others are private.

### 15.3.1 EXPORT CREDIT AND GUARANTEE CORPORATION OF INDIA LIMITED (ECGC)

ECGC was established in July, 1957 to strengthen the export promotion by covering the risk of exporting on credit. Ministry of Commerce & Industry, Department of Commerce, Government of India keeps the administrative control of it. The representatives of the Government, Reserve Bank of India, banks, insurance companies and exporting community constitute its Board of Directors that run the ECGC.

### 15.3.2 FUNCTIONS OF ECGC

The main functions of ECGC are as under

- i) It offers guarantees to banks and financial institutions to enable exporters to obtain better facilities from them.
- ii) It provides a range of credit risk insurance covers to exporters against loss in export of goods and services as well.
- iii) Provides Overseas Investment Insurance to Indian companies investing in joint ventures abroad in the form of equity or loan and advances.

### 15.3.3 ROLE OF ECGC IN EXPORT

ECGC helps exporters of the country as follows.

- i) Offers insurance protection to exporters against payment risks
- ii) Provides guidance in export-related activities
- iii) Makes available information on different countries with its own credit ratings
- iv) Makes it easy to obtain export finance from banks/financial institutions
- v) Assists exporters in recovering bad debt
- vi) Provides information on credit-worthiness of overseas buyers

### 15.3.4 HOW ECGC COVERS INSURANCE

Let's understand how ECGC covers insurance for exports? Once the order is finalized, the buyer places a purchase order to the seller with the terms and conditions mentioned on it and agreed by both the party. The purchase order should contain full details of buyer and buyer's

bank account details. The exporter then approaches Export Guarantee Corporation to get approval on the buyer with amount of limit. Here, the ECGC look for its available contact with overseas network and finds out the credit worthiness of the said buyer. Upon receiving the information about the buyer, ECGC arrives a figure of creditworthiness and inform the maximum limit of amount that can be shipped at any point of time. In return, Export Credit Guarantee Corporation collects premium on the amount of approval and issue insurance policy accordingly.

### **15.3.5 KEY FACTORS FOR SUCCESS OF EXPORT CREDIT AGENCIES**

There are few key factors that are identified based on experience with ECAs around the world. These key factors are found to be very important for the success of ECA.

#### **Capital Base**

Capital base is key for success of any ECA. It has been found that the most successful ECAs have substantial paid-up capital, which is invested in interest-bearing securities. Investment earnings are sufficient to keep the ECAs profitable even during the first few years of operations, when operating revenues are relatively low. Capital is equal to at least 25percent of anticipated outstanding loans, guarantees and insurance for early years of operation and gradually decline as a percentage of outstanding in subsequent years.

#### **Autonomy**

Organizational autonomy is very important. It has been observed that successful ECAs have the authority to make their own decision for political reasons only and are not required by government to undertake unprofitable operations unless the ECA is acting as agent for the government using government funds.

#### **Government Support**

Support from government is essential for success of any ECA. This support is primarily in the form of assuming political risk coverage but may also consist of the provision of funds on favorable terms, the availability of government guarantees to cover lending operations, publicity given the ECA by government agencies, as well as other forms of encouragement given by the government to use the ECA programs.

#### **Risk-Sharing**

It is important that commercial banks and exporters also share risks in every transaction done through ECA. ECAs around the world also uses various risk diversion techniques like coinsurance and reinsurance agreements with their own governments, with foreign reinsurance companies, and with other ECAs. .

#### **Suitable Fee Structure**

Successful ECAs operate on the principle that availability of funds is more important to the exporter than cost and that an ECA must be profitable over the long run in order to survive. Accordingly, interest rates and premiums reflect the real costs of doing business and

maintaining the value of capital. Interest rates are market-based, and guarantee and insurance premiums are designed to cover related claims and administrative expenses.

### **Operations Diversification**

In order to be fully successful, the best ECAs offer a full range of products, including loans, guarantees, insurance, and technical assistance. The need for, and use of, these programs will vary over time, as will their profitability. By offering all types of programs, the ECA maximizes its impact on exports and cushions low returns in some areas with higher returns in others. Also, the programs are mutually supporting. For example, technical assistance can reduce risks and improve repayment of transactions that are supported by loans, guarantees, or insurance.

### **Management Quality**

Finance professionals are key for successfully run ECAs who have extensive prior experience with the management of private financial institutions. They are thoroughly familiar with the techniques of trade finance and are flexible, efficient, profit-conscious managers. In order to obtain and keep such individuals, the ECA provides compensation comparable to that in private sector banks.

### **Efficiency of Procedures**

Best ECAs keep their paperwork and administrative procedures very simple and straightforward. It does not take more than five days to process the loans, guarantees, and insurance. Its internal analysis is often confined to a checklist procedure rather than memo writing. Officers within the organization are given discretionary power, and exporters and banks are given proper authority, depending upon the risks they are willing to take and the procedures they follow.

### **Aggressive marketing**

Aggressive marketing plays an important role in the success of ECAs. It is designed to familiarize banks and exporters with ECA programs and encourage their use. Marketing tools are used to promote their services and directed to all types and sizes of exporters and to all geographic regions of the country.

### **Skill in Credit Analysis**

Successful ECAs have loan officers and underwriters with sound judgment, extensive experience, and mastery of the techniques of risk analysis. Losses due to inadequate analysis in the early years are gradually reduced as the ECA learns from its mistakes and upgrades its skills.

### **Appropriate Collateral and Guarantees**

Collateral and guarantee requirements of successful ECAs follow generally accepted business practices in the markets they enter. Security requirements take into account competitive realities and the practicality of enforcing collateral rights. Underwriting policy

emphasizes taking security consistent with the acceptable risk parameters for the whole portfolio.

### Technical Sophistication

The best ECAs utilize the latest financing techniques and instruments, changing them as needed be, to match foreign competition. These ECAs make every effort to transfer their knowledge of financial innovations and successful risk management to their nation's banks and exporters.

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## 15.4 DEVELOPMENT FINANCE INSTITUTIONS

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Development financial institutions (DFIs) are financial institutions that were established with a view to provide project appraisal and project finance to the Indian industry. Industrial Finance Corporation of India was the first DFI that was established in 1948. The industrial sector of any country is the backbone of its economy. It is therefore important to keep the health of the industrial sector robust and in good shape. For this, the governing and regulating authorities should ensure that these financial institutions should not face any bottlenecks in raising funds at cheaper rates since the funds will be further utilized for priority lending and in financing new technologies. Regular banking sector does not facilitate project appraisal and long term finance for regular projects and new technologies. This lacuna gave rise to the establishment of DFIs to cater to the specific needs of the Indian industrial sector so that it can thrive well and make the Indian economy healthy. DFIs are created in developing countries to resolve market failures, especially in regard to financing of long-term investments. The DFIs played a very significant role in rapid industrialization of the Continental Europe. National governments and international agencies have sponsored many of the DFIs. The first government sponsored DFI was created in Netherlands in 1822. Credit Foncier and Credit Mobiliser were the first few development institutions in France that were involved into long-term financing. Japan Development Bank and other term-lending institution from Asia, were instrumental in fostering rapid industrialization of Japan. The success story of these institutions provided strong base for the creation of DFIs in India after independence.

### DEVELOPMENT FINANCE INSTITUTIONS IN INDIA

Development Finance Institutions (DFI) in India can be categorized as:

1. National level institution
2. State level institution

**National level Institution:** There are many national level institutions in India. Some of them are as under:

- Industrial Finance Corporation of India Ltd. (IFCI)
- Small Industrial Development Bank of India (SIDBI)
- Export Import Bank of India (EXIM)
- National Bank For Agriculture & Rural Development (NABARD)

**State level institution:**

- State Financial Corporation's (SFCs)

**15.4.1 INDUSTRIAL FINANCE CORPORATION OF INDIA LTD.(IFCI)**

The Industrial Finance Corporation of India (IFCI) was established on July 1, 1948, as the first Development Financial Institution in the country under the ambit of Industrial Finance Corporation Act. The purpose of setting IFCI was to extend institutional credit to medium and large scale industries. The IFCI status was changed to a public limited company on 1st July 1993 with an objective to provide it more freedom and flexibility in terms of operations. It is a company and is governed by a board which is elected by its shareholders.

IFCI's activities are classified in to two categories i.e. financial and promotional activities.

**Functions of IFCI:****Financing Activities:**

**i) Project Financing:** It is the core business of IFCI. The main objective behind the incorporation of the DFI was to fund green field projects. Green field project are the projects which are established a fresh. Here, IFCI provides medium or long term loan for setting up new projects, expansion or diversification schemes, modernization/balancing schemes of existing projects. These loans can be provided in the form of rupee loans, foreign currencies, underwriting and subscription of shares and debentures and providing guarantee for deferred payments and loans etc.

**ii) Financial Services:** If corporates have some specific financial related needs like equipment finance, equipment credit, equipment leasing, supplier's/ buyer's credit, leasing and hire purchase issues, working capital term loans, short term loans, equipment procurement, installment credit etc. then IFCI provides all them.

**iii) Corporate Advisory Services:** Corporate advisory services are also provided by IFCI. Some of the areas it covers are investment banking, projects, infrastructure, corporate finance, and corporate restructuring. It also helps the corporates in the tailored made services such as disinvestments, business restructuring, investment appraisals, bid process management and formation of joint ventures. It promotes and act as channel partner for channelizing foreign direct investments and provides a range of services to prospective foreign investors. It also dealt with consultancy services in different infrastructure sectors namely electricity, telecom, oil and gas, insurance and education.

**iv) Corporate Advisory Services to Foreign Investors:** IFCI provides a whole range of services to prospective foreign investors. Some of the services includes facilitating the foreign business entities through information services, coordination for obtaining the required approval/ clearances from government departments and agencies, inputs on markets, materials and manpower available in the country, necessary office infrastructure for the start-up operations of the organization, inputs on available manufacturing facilities, syndication services for obtaining the required capital, mergers and amalgamations etc.

**Promotional Activities:**

IFCI has set up many services to promote the capital market and make the investment environment conducive in India such as investor services, custodial services, rating services, corporate advisory services, venture capital services, etc.

**Financial products offered by IFCI**

IFCI has various products offerings designed to cater to various target customer segments to satisfy their specific financial needs. These product offerings differ from one business segment to other business segment. While customizing the product-mix to, IFCI makes sure that these products maximize customer satisfaction. IFCI has got the required domain knowledge and innovativeness that make the product-mix a key differentiator for building, enduring and sustaining relationship with the borrowers.

**Debt Segment**

IFCI structures its Debt products based on the specific requirements of the corporate. Some of the products are:

- a) Short Term loans of less than 3 years duration: It is designed to meet the immediate requirements of corporate for meeting temporary gaps in working capital, mismatch in cash flow, subscribing warrants, Rights issues, Initial Public Offerings, acquisitions, refinancing of existing debt, preoperative expenses of projects, short term miscellaneous requirements, investment requirement in group companies and subsidiaries, etc.
- b) Corporate Loans of 3-5 years duration: It is meant to meet all types of requirements for the corporate, group companies, subsidiary companies, investment companies etc.
- c) Project loans of 5-15 years duration: It is meant to meet the fund requirements of Greenfield projects expansions/modernization projects etc. across all industry and infrastructure sectors.
- d) Different types of guarantees and Non-fund-based facilities.

**Equity Segment**

- a) Investment in IPO, Right issue, Qualified Institutional Placement (QIP), Warrants etc. as well as in the secondary markets for listed companies.
- b) Strategic investment in unlisted companies.
- c) Trading in the secondary market including equity derivatives.

**Targeted Business Segments**

IFCI deals with various business segment to cater to their financial related requirements. Some of the segments which can be categorized are as under:

- a) Public Sector Undertakings
- b) Manufacturing industry
- c) Infrastructure projects
  - i) Power

- ii) Airports (Brownfield)
  - iii) Ports
  - iv) Hotels
  - v) Urban infrastructure projects
- d) NBFCs
  - e) Participation in Private Equity
  - f) Promoter funding.

### **15.4.2 SMALL INDUSTRIES DEVELOPMENT BANK OF INDIA(SIDBI)**

The Small Industries Development Bank of India (SIDBI) was came into existence in the year 1990. It was formed under the Parliament Act – the SIDBI Act, 1989. The mandate was given for SIDBI to be the principal financial institution for promoting financing and developing industries in the small scale sector and to coordinate the functions of other institutions engaged in similar activities. It started its functioning in April, 1990 by taking over the outstanding portfolio related with the small scale sector of Industrial Development Bank of India (IDBI). With this reference, 51.1 per cent equity shares of SIDBI held by IDBI have been transferred to public sector banks, LIC, GIC and other institutions owned and controlled by the central government. Currently, SIDBI has 35 banks, insurance companies, investment and financial institutions as its shareholders. IDBI still holds 49 per cent share in SIDBI.

#### **Objectives of SIDBI:**

Government of India set up SIDBI with the purpose that it will ensure larger flow of assistance to the small-scale units. To achieve this purpose, SIDBI identified following thrust area on an immediate basis. These measures areas as under:

- i) Technological up gradation and modernization of existing units will be initiated
- ii) Marketing the products of the small scale sector to be ramped up.
- iii) Employment-oriented industries to be promoted in semi- urban areas to create more employment opportunities.

#### **Functions of SIDBI:**

SIDBI provides assistance to the small-scale industries sector in the country through the existing banking and other financial institutions, such as, State Industrial Development Corporations, commercial banks, State Financial Corporations, cooperative banks and Regional Rural Banks (RRBs) etc. The major functions of SIDBI are given below:

- i) Refinancing of loans and advances: This facility is provided to the small-scale units.
- ii) Discounts and rediscounts bills: It provides discounts and rediscounts bills facility that arising from sale of machinery to and manufactured by small-scale industrial units.
- iii) Seed Capital assistance under National Equity Fund, MahilaUdyamNidhi etc.

- iv) Direct assistance and refinance loans extended by primary lending institutions for financing exports of products manufactured by small-scale units.
- v) Factoring, leasing, etc. to small units.
- vi) Financial support to State Small Industries Corporations for providing raw materials to and marketing the products of the small-scale units.

### 15.4.3 EXPORT IMPORT BANK OF INDIA (EXIM)

Export-Import Bank of India (EXIM Bank) was established in the year 1982 as a specialized financial institution which is wholly owned by Government of India. The aim of establishing EXIM bank was to finance, facilitate and promotion of foreign trade of India. The Government of India contributed the share capital of Rs 1,300 crore which has now gone up to Rs 5,059 crore and the Net Worth stood at Rs 9,902 crore as on 31<sup>st</sup> March 2015.

**Objectives of EXIM Bank:** The main objectives of EXIM bank are as under.

- i) To pay specific attention to the exports of capital goods
- ii) To ensure that exporters of India do not face any allied problems.
- iii) Export projection;
- iv) To facilitate and encourage joint ventures.
- v) Promote merchant banking;
- vi) To extend buyers' credit and lines of credit;
- vii) To tap domestic and foreign markets for resources for the export sector.

**Functions of EXIM Bank:** The following are the functions of Export Import bank:

1. **Finance for exports and Imports:** EXIM bank helps by providing finance for exports and imports of goods as well as services from India. Export of value-added items was one of the major thrust area which the government of India has taken in the recent past. Like for instance- in the past, we have been exporting Hades and skins from India. Now, we are exporting processed leather in the form of leather goods. So, the income of the exporters has gone up many times due this shift. Similarly, EXIM bank provides loan on import of raw materials such as gold because it will be exported as jewels which are again a value-added export.
2. **Finance on deferred basis:** Import of capital equipment and other machinery are financed by EXIM bank on deferred basis. In this facility, since the cost of capital equipment in foreign countries used to be very high and the Indian importer cannot afford to pay lump sum payment in foreign exchange, the EXIM bank provides guarantee on behalf of the importer and enables the importer to make payment on installment basis to the foreign exporter. Sometimes the bank itself may pay in the total amount in lump sum bulk to the foreign exporter and receive installment payments from the Indian importer.

3. **Lease Finance:** If any importer from India wish to buy equipment from abroad, EXIM bank provides lease finance for such importers. Under this leasing, the lessor used to be in a foreign country, while the lessee will be in India. The EXIM bank helps the Indian lessee in obtaining the capital equipment on lease and make the lease payment in terms of foreign exchange. It also helps for import leasing, wherein both the lessor and lessee will be Indians but the equipment imported on lease may be from some other countries.
4. **Finance to export projects:** EXIM bank also finance projects which are meant for Third World countries. There are various players in India that execute projects in Third World countries, such as railway project in Tanzania, or Road and airport projects in Oman, oil wells in Kuwait and Iraq taken up by Oil and Natural Gas Commission (ONGC) etc. are financed by EXIM bank. Finance required to buy equipment or manpower are done by EXIM bank.
5. **Line of credit:** The EXIM bank provides line of credit to foreign importers so that exports from India can increase. Under line of credit, EXIM bank will provide finance to the Central bank of the borrowing country which in turn will provide to the commercial bank and ultimately the credit will reach the importer. This kind of credit is safe as there is guarantee of funds at every stage.
6. **Refinance in foreign exchange:** EXIM bank also provides Refinance in foreign exchange. For this it raises bulk loan in foreign currencies in the foreign exchange market and provides refinance to the financial institutions which provide export finance. Different types of exporters may require different foreign currencies and these are obtained by the EXIM bank at a competitive interest rate and are given to commercial banks for lending to exporters. Commercial banks are able to provide pre-shipment and post-shipment finance to different exporters because of EXIM bank only.
7. **Equity fund contribution:** As a part of investment policy or by way of portfolio investment, EXIM bank may invest in the shares and debentures of companies involved in exports. Under this process, EXIM bank also subscribes the shares or debentures of Indian companies involved in exports and in turn provide money to the exporters for their expansion plans. The bank usually extends this facility as a temporary finance as it will not retain the shares permanently.
8. **Consultancy Services:** Exporters also receives technical, administrative and other assistance by the EXIM bank. Firstly, EXIM bank analyze the projects from the point of view of technical, managerial, marketing and financial feasibility. Once it is found to be viable from all respect then it will fund it.

Apart from the above assistance, it is also providing discounting facilities for export bills. There is also export finance for computer software exports. The exporters are provided with market development assistance so that they can undertake advertising and sales promotion activities in foreign countries.

### **15.4.4 NATIONAL BANK FOR AGRICULTURE & RURAL DEVELOPMENT (NABARD)**

Government of India and Reserve Bank of India nominated Mr. Gorewalla as the head of the committee which was given the task to study the agricultural credit in India in order to improve rural credit. The committee gave the recommendations and were accepted implemented by the RBI. On the basis of these recommendations, RBI started two major funds for providing loans to State Governments and cooperative banks.

RBI being the apex body for monetary systems of India, it was very difficult for RBI to focus on agricultural finance. Agricultural Refinance Corporation was also not able to meet the full requirement of finance and refinance facility. Keeping the growing requirement in mind then the decision was taken to delink agricultural finance from RBI and to set up a separate institution to provide agricultural finance. A Committee to Review Arrangement for Institutional Credit for Agriculture and Rural Development (CRAFICARD) was formed in the year 1981 under the chairmanship of Mr. Sivaraman. Mr. Sivaraman recommendation then was accepted thereafter NABARD was born on July 12, 1982.

#### **CAPITAL SOURCE FOR NABARD**

NABARD was started with the authorized capital of Rs. 500 crores. It taken over various subsidiaries of RBI like Agricultural Credit Department, Rural Planning Credit Cell of RBI, and Agricultural Refinance and Development Corporation to begin its operation. As of March 2015, the subscribed and paid-up capital of NABARD was Rs. 5000 crores. Central Government has contributed 4980 Crores and RBI the rest 20 Crores. RBI has also granted a loan of Rs. 1,200 crores to NABARD for its expansion. Later, various State Governments and State Cooperative banks loan for agriculture which were granted by RBI were also transferred to NABARD. The NABARD now enjoy the status of the apex institution for agricultural finance. It does not only mean for agricultural finance, but it also promotes the development of rural areas.

#### **Objectives of NABARD**

NABARD has been established to full fill following objectives:

- i) Refinance: Its main focus is to provide refinance assistance for agriculture and promotion of rural development activities.
- ii) Financial assistance to small scale industries.
- iii) Facilitate irrigation by way of promoting agricultural activities.
- iv) Promote Research & Development in agriculture and rural industries.
- v) Capital contribution in various organizations involved in agricultural production.

Based on the above objectives, following functions of NABARD is derived.

#### **Functions:**

1. Refinancing facilities: It provides refinancing facility to most of the commercial banks, State co-operative banks, Central Co-operative banks, Regional rural banks and Land Development banks.

2. Financing to banks: It facilitates loans to commercial and co-operative banks so that they can extend loans to these rural industries, small scale and cottage industries and tiny sectors.
3. Under its service area approach, special assistance is provided by NABARD for the promotion of small scale, cottage and village industries.
4. Bills discounting: NABARD provides bill discounting facility to enable commercial and co-operative banks to finance for agricultural operations.
5. Funds for developmental and promotional activities: NABARD provides funds to State governments for undertaking developmental and promotional activities in rural areas. It helps regional rural banks which are set up in backward areas in most of the States.
6. Long-term loan: NABARD also provides long term loan to institutions involved in long-term agricultural loan against guarantee of State government.
7. Research and Development: NABARD is also financing research and development of agricultural and rural industries.
8. It also implements the policy of the Central Government and the RBI with respect to agricultural credit.
9. Financing to Non farm activities: It finance for non-farm activity so that rural unemployment may reduce to a significant level.
10. It providing loans to both State co-operative banks and also to Land Development Banks to strengthens the co-operative structure in the States.
11. Irrigation projects are also funded and promoted by NABARD.

#### **15.4.5 STATE FINANCIAL CORPORATION'S (SFCS)**

The Government of India passed State Finance Corporation Act in 1951 to empowering state governments to start state finance corporations. It was intended to meet the financial needs of small and medium scale industrial units which are not governed by Industrial Finance Corporation. Punjab was the first state to establish its State Finance Corporation (SFC). Currently 18 SFCs are operational in different parts the country.

**Functions of SFCs:** The following are the functions of SFCs

1. **Financial assistance to small units:** SFC were established primarily to provide long term loan to small and medium enterprises. These loans were repayable in 20 years period.
2. **Guaranteeing loans:** If the industrial units are seeking loans from commercial bank, SFC provides guarantee on behalf of these units.
3. **Subscription and Underwriting:** If some small-scale industries wishes to raise money by issuing fresh shares or debenture then SFCs subscribe those debentures and also underwrites the issue of stock, shares, and bonds.

4. **Guarantee for Defer payment:** If some small scale industries wishes to purchase of machines and equipment's etc. within the country in that case SFCs provides Guarantee for defer payments.
5. **Agent of central and state government:** Sometimes central or state government require agents for sanctioning and disbursing loan to these industrial units. SFCs act as agent in such scenario.



### *Check Your Progress- A*

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**Q1. What are the main objectives of NABARD?**

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**Q2. What do you understand by Refinance?**

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## **15.5 SUMMARY**

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In this unit we have discussed the role and importance of Export Credit Agencies. We also learnt about the main function of Export Credit Guarantee Corporation (ECGC) in India and how it is changing the landscape of Indian exports. This unit also delved upon the importance of Development Finance Institutions in India. We discussed particularly the role and functions of national level development finance institutions like Industrial Finance Corporation of India Ltd. (IFCI), Small Industrial Development Bank of India (SIDBI), Export Import Bank of India (EXIM), and National Bank for Agriculture & Rural Development (NABARD). At the end, we learnt the functions of State Finance Corporations (SFCs).



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## 15.6 GLOSSARY

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**Bad Debt:** If a company takes loan from bank and not able to pay its interest and principal amount then it becomes bad debt.

**Collateral:** Collateral is a kind of security which a borrower has to keep with the lender. If the borrower stops paying the debt then in that case the lender can sell the collateral to recover its losses.

**Corporate Finance:** Corporate finance is a discipline which deals with finance function of an organization for the purpose of maximizing shareholder value. Capital investment, working capital decisions, funds raising through debt or equity all comes under corporate finance.

**Custodial Services:** The custodial Services provides a range of security *services*, including safekeeping and settlement, reporting, corporate actions, dividends collection and distribution, proxy voting, tax reclaim *services*, fund administration and providing market news and information.

**Deferred Payment:** In an arrangement where the borrower is allowed to start making payments at some specified time in the future.

**Discounts of Bills:** If the bills are converting into cash, it is called discounting. When some corporates get its bills converted into cash it gets less cash than the face value of the bill, therefore the term is named as discount.

**Export Credit Guarantee Department:** The official export credit agency, arranging finance facilities and credit insurance for exporters unable to obtain help from the private sector.

**Initial Public Offerings:** When the organization offer its shares or debentures to the public for the first time it is called initial public offering (IPO).

**Investment Banking:** If a private company that provides various financial-related and other services to individuals, corporations, and governments it is called Investment banking. These services may include raising financial capital by underwriting or acting as the client's agent in the issuance of securities.

**Leasing:** A lease is a contract outlining the terms under which one party agrees to rent property owned by another party.

**Lines of Credit:** It is an arrangement between a financial institution, usually a bank, and a customer that establishes a maximum loan balance that the lender permits the borrower to access or maintain.

**NBFC:** A Non-Banking Financial Company (NBFC) is a company that is engaged in the business of financial services. These financial services include loans and advances, acquisition of shares, stock, bonds hire-purchase, insurance business etc.

**Preoperative Expenses:** When the factory is established then there are certain expenses which incurs before the commencement of the operation. all those expenses comes under the Preoperative expenses.

**Qualified Institutional Placement (QIP):** These are the type of financial institutions which subscribe the shares and debentures of listed entity in India.

**Rights Issues:** It is when the company issue shares to its existing shareholders to raise fresh capital then it is called right issues.

**Underwriting:** Underwriting is the process by which investment bankers raise investment capital from investors on behalf of corporations and governments that are issuing either equity or debt securities.

**Venture Capital:** IT IS a kind of fund provided by the financial institutions to small, early-stage, emerging firms that are deemed to have high growth potential.

**Warrants:** It is a kind of option where the holder get the right but not the obligation to buy an underlying security at a certain price, quantity at future time.




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## 15.8 SUGGESTED READINGS

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1. Projects: Planning, Analysis, Selection, Financing, Implementation and Review by Prasanna Chandra, Tata McGraw Hill, 7/e
2. Project Management, Dennis Lock, Gower
3. Managing Project Risk by Chong, Pearson Education.
4. Total Project Management, P.K.Joy, Macmillan
5. International Project Analysis and Financing, Gerald Pollio, Macmillan Business
6. Corporate Finance, A. Damodaran, Wiley




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## 15.9 TERMINAL QUESTIONS

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- Q1. Discuss the role of Export Credit and Guarantee Corporation of India Limited (ECGC).
- Q2. Discuss the key factors that are important for success of Export credit agencies.
- Q3. Explain the role and functions of Industrial Finance Corporation of India Ltd. (IFCI).
- Q4. Discuss the role and functions of Small Industrial Development Bank of India (SIDBI).
- Q5. Explain the role and functions of Export Import Bank of India (EXIM).
- Q6. Explain the role and functions of National Bank For Agriculture & Rural Development (NABARD).
- Q7. Discuss the role and functions of State Financial Corporation's (SFCs).

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## **UNIT16 NOVEL MEANS OF FINANCING PROJECTS**

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### **16.1 Introduction**

### **16.2 Objectives**

### **16.3 Sources of Finance for Projects**

### **16.4 Sources of Debt Finance**

### **16.5 Equity**

### **16.6 Other Sources**

### **16.7 Summary**

### **16.8 Glossary**

### **16.9 References**

### **16.10 Suggested Readings**

### **16.11 Terminal and Model Questions**

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## **16.1 INTRODUCTION**

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In the previous units, the focus was on agencies like Export Credit Guarantee Corporation (ECGC), EXIM bank etc. which provide financial assistance and credit facility to export oriented business in India. Also, you learn about the functions of various Development Finance Institutions. In this unit, you will learn about various financial instruments and different national and international sources of finance available for projects.

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## **16.2 OBJECTIVES**

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After reading this unit you will be able to ;

- Understand different types of debt-oriented sources for acquiring funds for the projects.
- Analyze the pros and cons of equity as source of project finance.
- Understand the nuances of foreign sources of project finance.

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## **16.3 SOURCES OF FINANCE FOR PROJECTS**

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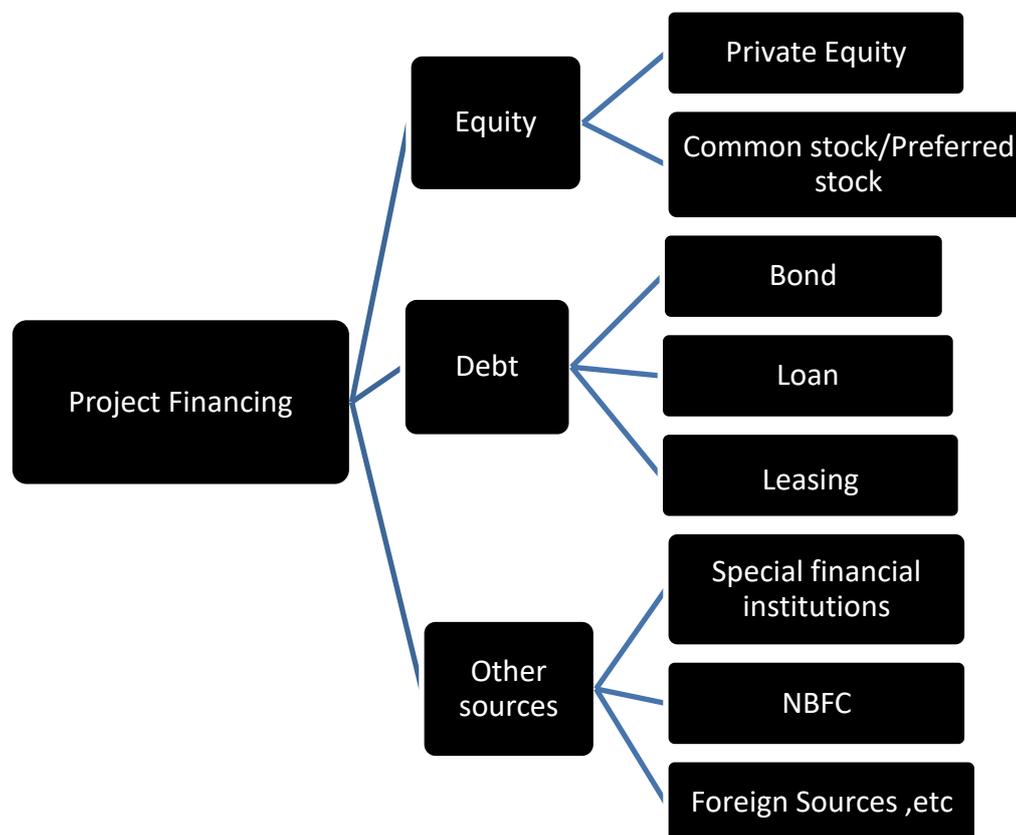
Project finance is considered as a long-term sources or method of financing large infrastructure and industrial projects. These financing is evaluated based upon the projected

cash flow of the finished project rather than the investors' own finances. It generally involves a number of equity investors as well as a syndicate of banks who will provide loans to the project.

Project finance is commonly used for following types of projects:

- Oil and gas exploration projects
- Infrastructure projects, like Expressway, Airports, Ports etc.
- Facility relating to sports
- Telecom networks, Liquefied natural gas development projects.

There are many sources from where project can be finance. These are as follows:



**Figure 16.1 : Sources of Finance**

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## 16.4 SOURCES OF DEBT FINANCE

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As we know that there are a variety of sources of finance available which can be used in a project financing. However, a judicious mix of debt and equity is always preferable so that the shareholders returns can be maximized. Here, the debt as sources of finance plays an

important role in overall capital structure of the project. In this section, you will come across various types of debt instruments available for project financing. There may be different types of debt instrument. Some of them are listed below.

### 16.4.1 BOND

Bond is a kind of debt instrument. It is issued by the company or government agencies to raise money from the market for its operation. It is a long term instrument with maturity varies from 5 years to 20 years. An important features of bond is that it carries a fixed or floating rate of interest. Holder of a bond receives regular interest payment (semiannual or annual) i.e. also called coupon and get the principal at the maturity. One of more important feature of the bond is that it is a negotiable instrument. It means that the ownership of the instrument can be transferred in the secondary market. This also means that it highly liquid instruments as it can be sold in secondary market easily.

#### Different Types of Bonds:

**Fixed rate bond:** This is a bond where interest or coupon amount remains constant throughout the life of the bond.

**Floating rate notes (FRNs, floaters):** This is a bond where the coupon is variable and the coupon is linked to a referencerate of interest, such as LIBOR or Euribor. For instance, if coupon rate is three month USD LIBOR + 0.20% then the coupon rate will keep on fluctuating and will depend upon the three month LIBOR rate.

**Zero-coupon bond (zeros):**This type of bond does not carry any interest but they are issued at discount to its face value. At the time of maturity, bondholders get its face value. So the different between the face value and its discounted value is the gain bonder holders receive during its maturity.

**Junk bonds:**If the credit rating of a bond is below investment grade by the credit rating agencies then such type of bond is risky for investment and is termed as junk bond.

**Convertible bond:** It is a kind of bond which gets converted into equity after certain period of time. It is also called hybrid securities, because they have both the features of debt as well as equity.

**Inflation-indexed bond:** In this particular bond, the interest payment and principal is attached with inflation of the country. Here, the interest rate is kept relatively lower as compared to fixed rate bonds with a comparable maturity. However, as the principal amount grows, the interest payment also increase with increasing inflation.

**Subordinated-bond:** Subordinated bond is considered as low priority bond than other bonds of the issuer. Under liquidation process, subordinated bond holders receive payment after the senior bondholders get their dues. It is because of this hierarchy, the risk with subordinated bonds is higher. Therefore, subordinated bonds usually have a lower credit rating than senior bonds.

**Government bond:** It is issued by national government and also called as Treasury bond. This type of bond is not exposed to default risk. Therefore they are considered as the safest instrument of investment and carry lowest interest rate.

### 16.4.2 LOAN

Loan is a type of financial assistance provided by bank or financial institutions to individuals or corporates. Under this arrangement, a fixed or floating rate of interest is charged from the borrower for a particular period of time known as tenure of loan. The loan is generally given against some security like property or equipment etc. The loan which is given against some security are called secured loan while other type is known as unsecured loan. Documents of loan specify the repayment schedule, interest rate, etc. which provides an incentive for the lender to engage in the loan. Sometimes loan has got some restriction which is known as loan covenants.

#### Different Types of Loans:

**Project financing loan:** This type of loan is provided to a project by financial institutions to make or guarantee a loan to a project. They carefully analyze the economic, technical, marketing, and financial soundness of the project to determine its creditworthiness. They make sure that the project has adequate cash flow to pay all operational costs and to service all debt. They also make sure that it is backed by collateral which makes the loan safe and secure. The project sponsors are supposed to help the overseas operation till the time usual certification of tests for physical completion, operational implementation, and financial soundness are not met. Sponsors may not need to pledge their own general credit beyond required completion undertakings till the time project financing is appropriate. They make sure that the project does not have any loop holes. This means that all the purchases and sales of final products should be guaranteed upon long term contracts even after project is operational. In general, if the funding comes from other countries, the rate of interest charged by the lenders ranges from around 1.5 up to 2% and depending to the country the insurance related costs could be between 2-4%. So in worst condition also, the total cost will not go up by 6%.

**Term loan:** A term loan is simply a loan provided by commercial banks or NBFCs for business purposes. It needs to be repaid within a specified time frame. It typically carries a fixed interest rate with repayment schedule as monthly or quarterly. Term loans can again be both secure and unsecure. Secure term loans are the ones where some collateral is provided while unsecure term loans are the ones where no collateral is required. Bank charges lower interest rate from secured term loan as compared to unsecure term loan. Depending upon the repayment period this loan type is classified as under:

- i) Short term loan: Under this type of term loan the repayment period is less than 1 year.
- ii) Medium term loan: Under this type of term loan the repayment period is between 1 to 3 years.

iii) Long term loan: Under this type of term loan the repayment period is above 3 years.

**Bank overdraft facility:** If the company need more money than what it has in its current account then it can use bank overdraft facility. Bank generally fixed the interest to be paid on overdrafts beforehand so that the borrower know in advance the actual cost of such facility. It is considered as a source of short term funding.

**Letter of credit (LC):** Letter of Credit is issued as a guarantee to the seller. It promises the seller of the good or service that he or she will be paid as long as the services are performed (usually the dispatch of goods). It is a kind of detailed document issued by a financial institution assuring payment to a seller provided seller produces some documents as desired by the bank or institutions. This type of facility is used by importers or exporters as in international trade because trading parties are not well known to each other.

**Small and Medium Enterprise (SME) collateral free loan:** as its name suggests, it is usually a business loan offered to SMEs without any collateral or without third party guarantee. Since SMEs don't have much resources to keep as security, therefore, Banks or financial institutions generally backed by government provide such type of loan to promote SMEs in the country. It may be used for working capital requirements, purchase of machines, support expansion plans for both start up as well as existing ventures. However, it is not meant for small businesses involved in retail trade.

### 16.4.3 LEASING

Leasing is another important source of finance for buying equipment and has become an important financing alternative both for developing and developed countries. Under leasing, firm gets the right to use certain fixed asset for which it must make a series of contractual periodic tax deductible payments called lease rental. In most of the developed and emerging countries approximately one third of private investment is financed through leases. The most common features of a lease is that it include payment obligations on the part of the lessee to the lessor in consideration for the lease of a certain asset. Primarily, two parties are involved in leasing:

- i) Lessor: It is the owner of the assets that is being leased
- ii) Lessee: It is the receiver of the services of the assets under a lease contract

There are two types of leases:

1. **Operating leases:** In an operating lease, the lessor not only keeps the title of the leased asset but also carries out routine upkeep tasks, such as maintenance and repairs of the leased property. It is meant for shorter period of time.
2. **Financial Lease:** In the financial lease, the lessee pays property tax and insurance premium to protect the leased property. Lessee also performs upkeep tasks like maintenance and repairs of the leased property. Financial lease can be considered as a substitute to debt financing. The advantage under financial lease is that the lessee's own financial ratios are not damaged. The relationship between the lessee and the lessor is similar to the relationship between a lender and an investor-borrower of a bank. In

financial lease the role of the lessor is completely secondary to that of the lessee which is quite similar to bank and borrower relationships. Similarly the lessee is under a firm contractual obligation to execute regular lease payments which is again quite similar to bank and borrower relationships.

Under leasing, usually there is a third part also involved. In a typical leasing process leasing companies buy the required plant and machinery from its manufacturer and lease it to the company that needs it for a specified period on payment of an annual rent call lease rental. Here, important point to note is that the ownership of the property always lies with lessor during the lease period and the lessor get the advantage of depreciation benefit while calculating corporate tax. However, the lessee being the user of the asset get the advantage of lease rental as it is treated as expenses. Hence its tax liability get reduced to the extent it pays the lease rental against the said assets.

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## 16.5 EQUITY

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Equity financing allows the organization to obtain funds without incurring debt. In other words, it is without having to repay a specific amount of money at any particular time. A project cannot pay dividends before operations start, and lenders normally restrict the payment of dividends during the early years of operation, until the debt has been substantially repaid. Lenders demand that all available free cash flow should be applied first to repay project debt. Consequently, if the project requires a long construction period, equity investors will have to accept delayed dividends. However, equity investors would not invest in a project if the expected benefits did not correspond to the project risks.

Equity may be public or private and in the form of preferred stock as well as common stock. The equity investors in a project typically are those groups who will benefit directly from the operations of the project: the purchasers of the project's output, the owners of any natural resource reserve the project will utilize, and the suppliers of essential products and services to the project. It is generally impossible to offer common shares to public investors at the beginning of a project. When the project entity has showed some profitability and the commencement of cash dividends are not very far ahead in the future, common equity may be sold to the public and to other passive investors.

The equity in project finance forms the basis for lenders or investors providing the project with debt. Lenders look at the equity investment as providing a margin of safety. There are three main reasons for lenders requiring equity investments in projects that they finance. First, the more burden the debt puts on the cash flow of the project, second the greater the lenders risk, and finally lenders want investors to have enough at stake to motivate them to see the project through to a successful conclusion. A large infrastructure project can be subdivided into different phases. The design, engineering, construction, erection, procurement, installation and commissioning of the project facilities are summarized in the construction phase. Operation, maintenance and management of the project are called the operating phase.

Equity can be classified into:

### **16.5.1 ORDINARY SHARE CAPITAL/COMMON STOCK**

Ordinary shares get the last priority for company assets when the company's asset get liquidated. But they get the voting right which make them powerful in the company business decision making. Usually, ordinary shareholders are entitled to one vote per share.

### **16.5.2 PREFERRED STOCK**

Proffered stocks have both the features of common stock as well as of debt. Therefore, they are also called a hybrid instrument. They are similar to common stock in the sense that the holders of preference stock get dividend. But these dividends are fixed therefore they resemble like a debt instrument.

### **16.5.3 PRIVATE EQUITY**

Private equity is becoming popular source of finance for private limited company. Under this arrangement, funds which pool the money from high net worth individuals directly invest in private companies. They can also buy the large stake of public companies which ultimately results into the delisting of public equity. The main purpose of the investment of private equity is that private equity investors want high return from their investment. These investment are taken place for the period of 5-7 years thereafter, they sell their stake to get the advantage capital gain. Generally, private equity investors expect the return of around 20-30 % per annum from their investment. Therefore, they identify potentially high growth medium size company which has potential to grow in the next 5-7 years. The minimum amount of capital required for investors can vary depending on the firm and fund raised. Some funds have a \$250,000 minimum investment requirement; others can require millions of dollars.

A private equity firm should have sufficient fund to buy significant stake in private company. For this, they do fund-raising activity by circulating a prospectus to potential investors who then agree to commit money to the fund. Once the private equity firm receives commitments from different high net-worth individuals, the firm may begin collecting funds to make an investment. Similarly, they keep on adding different funds based on the requirement of investment strategies. Most funds have a fixed life, meaning they must make their investments within a certain period (usually about 10 years). Private equity firms may float different funds at the same time to attract the investors from different profile.

Private equity firms are different from venture capital firms. Private equity firms usually invest in private companies or in public companies that want to go private. Whereas, venture capital firms invest into new and young businesses. Private equity firms often invest in older companies also which venture capital firm avoid by and large. Private equity firms might also use debt in their financing structures whenever they go for leveraged buyouts.

Private equity firm's managers receive an annual management fee that ranges from 1% -2% of the invested capital and a portion of the fund's net profits which is typically 20%. These fees attract the brightest professionals to manage these funds.



### Check Your Progress- A

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**Q1. How fixed rate bonds are different from Floating rate Bond?**

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**Q2. How operating lease is different from financial lease?**

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**Q3. What is zero coupon bond?**

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## 16.6 OTHER SOURCES

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### 16.6.1 SPECIAL FINANCIAL INSTITUTIONS

A number of special financial institutions have been set up by the central and state governments to provide long-term finance to the business organizations. These institutions provide financial assistance not only to existing enterprises which are seeking funds for expansion and modernization of existing business but also provide funding to new ventures like startups. Industrial Finance Corporation of India (IFCI), Industrial Investment Bank of India (IIBI), Industrial Credit and Investment Corporation of India (ICICI), Industrial Development Bank of India (IDBI), Infrastructure Development Finance Company Ltd. (IDFC), Small Industries Development Bank of India (SIDBI), State Industrial Development Corporations (SIDCs), and State Financial Corporations (SFCs), are some of the important names which are doing great jobs in providing financial assistance. Since these Institutions help

in developing overall industrial environment of the country, therefore, they are called as Development Banks or Development Financial Institutions (DFI). There are a few other financial institutions also exists other than these development banks like Life Insurance Corporation of India (LIC), General Insurance Corporation of India (GIC) and Unit Trust of India (UTI) which provide long-term finance to companies and subscribe to their share and debentures. Followings are the main functions of these institutions:

- They provide loans for a longer period to establish industry.
- They also help in establishing small business by providing large amount of funds with long gestation period;
- They help government in the development of backward regions of the country.
- They assist entrepreneurs in providing technical knowhow, specialized services operating in the areas of promotion, project assistance, and training and development.
- They also help in evaluating the project on technical and financial feasibility front so that entrepreneur can take better and informed decisions before the investment.

### 16.6.2 NON-BANKING FINANCIAL COMPANIES (NBFC'S)

You must have heard about various housing finance companies, investment companies, vehicle finance companies etc. operating in private sectors in different parts of our country. These companies are categories under Non-Banking Financial Companies, because they perform two functions- accepting deposits from the public or corporates and providing loans to the needy one. However they are not regarded as banking companies as they do not carry on the normal banking activities. They raise funds from the public and give them very attractive rate of interest. The same funds are lent to the wholesale and retail traders, small-scale industries and self-employed persons. These loans are generally unsecured and therefore they charge high interest rate from the borrowers. These interest rate vary somewhere between 18%-36% per annum. Other than giving loans and advances, the NBFCs also provide services like discounting of bills/hundis, merchant banking, housing finance, lease financing, hire purchase business etc. In spite of charging higher rate of interest from the borrowers, these NBFC are growing at very fast pace. The main reasons for their popularity are that they have simplified loan sanction procedure, attractive rate of return on deposits, flexibility and timeliness in meeting the credit needs of the customers. Some of the popular names in NBFC space in India are Bajaj Finance, LIC Housing Finance, Indiabulls, Dewan Housing Finance (DHFL), Religare, Aditya Birla Finance, Mahindra Finance etc.

### 16.6.3 FOREIGN SOURCES

Foreign Sources also play an important role in meeting the long-term financial needs of the business in India. They can be categorized as (1) external borrowings; (2) foreign investments and; (3) deposits from NRIs. Let us understand each one of them in detailed manner.

1. **External Borrowings:** As its name suggests, it is the fund which is raised from other country generally in the form of debt. These are the kind of loans which are available at concessional rates of interest with long maturity period. There are various agencies and institutions in the world which provide these kind of loans to business entity. Some of the

big names are International Monetary Fund (IMF), Aid India Consortium (AIC), Asian Development Bank (ADB), World Bank (International Bank for Reconstruction and Development) and International Financial Corporation. Each of these institutions have been set up to achieve different objectives. Like for example, World Bank provides loans to high priority industrial units and given either directly to an industrial concern or through a government agency. Some of the areas which are funded by World Bank are education, health care, sanitation projects in developing countries. Similarly, IMF also provide funding to new and technology oriented business entity whose objectives are to enhance the life of mankind. These loans are granted for the period of 8 to 10 years. Such loans do not require government guarantee. Similarly, external commercial borrowings are provided by export credit agencies like US EXIM Bank, the Japanese EXIM Bank, Export Credit and Guarantee Corporation of U.K. and other government and multilateral agencies. Indian government has also permitted external commercial borrowings as an important source of finance for Indian firms.

2. **Foreign Investments:** The foreign investments in our country are generally done in the form of foreign direct investment (FDI) or through foreign collaborations. When a foreign company intend to setup business entity in India or wish to buy any Indian entity by purchasing significant shares of the Indian entity from the market then this type of investment is termed as foreign direct investment. This foreign investment can take the form of portfolio investment also where Foreign Institutional Investors buy Indian company's shares from secondary market or subscribe to ADRs, GDRs and FCCBs (Foreign Currency Convertible Bonds). Foreign investment can take the shape of joint ventures also where the foreign partners provide technical knowhow or financial assistance while Indian partner may provide the marketing and channel partner experience. It may be observed in the recent past that India has become the most attractive destination for foreign investment leaving China behind in the year 2016. The main reason for this surge is a conducive investment policy by the government and huge market potential. India now permits automatic approval of foreign investment upto 100% equity in many industries. These foreign investment generally brings with him the technical expertise and the modern machinery. But the disadvantage is that they may transfer large part of profits to their native country.
3. **Non-resident Indians (NRIs):** Non-Resident Indians (NRIs) are those persons who are living in other countries. They are also known as Persons of Indian origin (PIO). These communities remit a lot off foreign currency to Indian banks and also invest through fixed deposit of long maturity. These deposit are opened through Foreign Currency Non-Resident Account (FCNRA) and Non-Resident (External) Rupee Account (NRERA). However, it has to be understood that NRI deposits are high cost source of external finance as they get domestic rate of interest on these deposit. Therefore, Country should not dependent too much on NRI deposits. It may also be worth noting that they are also permitted to subscribe to the shares and debentures of the companies in India, and have the option of selling them and take back the amount.

### **16.6.4 RETAINED EARNINGS**

When the company earns profit at the end of the year, it does not distribute entire profit to its shareholders. Some of the profit are kept for future expansions. These undistributed profit are known as retained earnings. It is also very important source of funding for any organization as it is easily available without any hassles and formality. Some organization make a policy to retain more and more profit for its expansion and modernization programs. Quantum of profits, the dividend payout policy followed by the management, the legal provisions for dividend payment, and the rate of corporate taxes are some of the factors that decides how much to retain.

It is considered as internal source of finance and does not incur any cost such as floatation and the uncertainties of external financing.

### **16.6.5 BOT (BUILD- OPERATE-TRANSFER)**

Under this financing schemes, private builder or manufacturer receives a concession from the government or government owned agencies to finance, design, construct, and operate a facility stated in the concession contract. This concession enables the builders to recover its investment, operating and maintenance expenses in the project.

### **16.6.6 BOO (BUILD-OWN-OPERATE)**

Under this financing schemes, the ownership of the project remains usually with the project company. The main advantage of this kind of proposal is that private company gets the benefits of any residual value of the project. This is only beneficial when physical life of the project is equal to the concession period. Water treatment plants generally comes under BOO projects.

### **16.6.7 BLT (BUILD-LEASE-TRANSFER)**

Under this financing schemes a private entity builds a complete project and leases it to the government. Here, the control over the project is transferred from the project owner to a lessee immediately. Which means that the ownership remains with the shareholders but operation purposes are leased. After the expiry of the leasing the ownership of the asset and the operational responsibility are transferred to the government at a previously agreed price.

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## **16.7 SUMMARY**

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In this unit we have discussed major sources from where project can be financed. Using any of the sources based on the requirement one can fulfill their financing need. Every party involve in the project must act creatively and try to meet all the challenges in the completion of the project and manage the risk effectively and efficiently and make the project financing successful. It is correct that financing through the syndicate loans make the company highly leveraged but on the other hand cost of debt is always less than the cost of the equity. Syndicate loan involve the risk for both borrower and lender. For borrower it is great risk to make its company highly leverage because if the cash flows will not be according to

projections then it become difficult to pay off loan amount and company can become bankrupt. And on the other hand for the lender if the company will not able to pay the loan then the bad debt increase and bank can face the liquidity problems. So it is very essential for both the parties to assess every risk associated with the project and make decision by considering all of these risks.



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## 16.8 GLOSSARY

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**ADR:** When Indian company wish to raise money from American market by issuing equity shares then it is known as American Depository Receipts (ADRs). It is a negotiable certificate issued by a U.S. bank to American investors. These ADRs are traded on a U.S. stock exchange.

**Corporate Governance:** Corporate Governance comprises of rules, practices and processes by which a company is directed and controlled.

**Covenant:** It is a restriction or promise in an indenture of debt agreement which specify that certain activities will or will not be carried out.

**Euribor:** The Euro Interbank Offered Rate (Euribor) is a daily reference rate where one bank or financial institution lend or borrow money from other bank or financial institution. Euro zone banks offer to lend unsecured funds to other banks in the euro wholesale money market.

**FCCB:** When a company issue convertible bonds in foreign currency for the foreign investors, it is known as foreign currency convertible bond (FCCB). It is also called as hybrid instrument.

**FIPB:** In order to promote FDI and foreign investment in India, the Indian has set up The Foreign Investment Promotion Board (FIPB) as a national agency of Government of India. It looks at the foreign direct investment (FDI) proposals which does not come under the automatic route.

**GDR:** When Indian company wish to raise money from any other countries by issuing equity shares then it is known as Global Depository Receipts (GDRs). It is a negotiable certificate issued by a foreign banks to international investors. These GDRs are traded on a Luxemburg stock exchange.

**Hedging:** A **hedge** is an investment position intended to offset potential losses or gains that may be incurred by a companion investment. In simple language, a hedge is

used to reduce any substantial losses or gains suffered by an individual or an organization.

**LIBOR:** London Interbank Offered Rate (LIBOR) is a daily reference rate where one bank or financial institution lend or borrow money from other bank or financial institution. It is most widely used benchmark or reference rate for short term loans. London Interbank Offered Rate, often quoted as a 1,3,6-month rate for US\$.

**Multilateral agency:**– An institution owned by many countries that provides loans and PRI for projects in developing countries. Examples would be World Bank and Asian Development Bank.

**Perpetuity:** An annuity forever; periodic equal payments or receipts on a continuous basis.

**Rating agencies:** When a company wish to raise money by issuing bonds then it has to get credit rating done from any of the rating agencies like CRSIL, CARE, Moody's or Standard & Poor. These companies give a quality rating to debt.

**Yield:** The financial return, usually expressed as a percentage per annum.



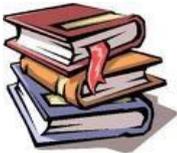

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## 16.10 SUGGESTED READINGS

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1. Projects: Planning, Analysis, Selection, Financing, Implementation and Review by Prasanna Chandra, Tata McGraw Hill, 7/e
2. Project Management, Dennis Lock, Gower
3. Managing Project Risk by Chong, Pearson Education.
4. Total Project Management, P.K.Joy, Macmillan
5. International Project Analysis and Financing, Gerald Pollio, Macmillan Business
6. Corporate Finance, A. Damodaran, Wiley



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## 16.11 TERMINAL QUESTIONS

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- Q1. Discuss the pros and cons of debt and equity as source of finance.
- Q2. Under what circumstances would the debt become dangerous for project financing?
- Q3. Discuss the importance of Private equity as source of project finance.
- Q4. Discuss various foreign sources of finance for project.
- Q5. Discuss the key features of term loan.

**Block IV**  
**Legal Aspects in Project Finance**

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## UNIT 17 LEGAL ASPECTS IN PROJECT FINANCE

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### 17.1 Introduction

### 17.2 Objectives

### 17.3 Role of Documentation

### 17.4 Shareholder/Sponsor Documentation

### 17.5 Loan and Security Documentation

### 17.6 Project Documents

### 17.7 Summary

### 17.8 Glossary

### 17.9 References

### 17.10 Suggested Readings

### 17.11 Terminal and Model Questions

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## 17.1 INTRODUCTION

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In the previous units, the focus was on various financial instruments and different national and international sources of finance available for projects. In this unit, you will learn about various legal aspects of project finance.

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## 17.2 OBJECTIVE

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After reading this unit you will be able to;

- Understand the role of documentation in project financing.
- Understand the documentation relating to Shareholder/sponsor arrangements.
- Understand various loan and security documents.
- Understand various project related documents.

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## 17.3 ROLE OF DOCUMENTATION

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The main purpose of project financing is to see that how risk relating to project can be allocated to various parties having an interest in that project. Various documentations play an

important role in achieving this particular task. For this purpose, each project must fit within the legal and regulatory framework in the various jurisdictions in which it is being undertaken or implemented. These contracts are very important and assume a huge significance between the various project parties. Because of these documents only that many of the project risks are shared amongst the project parties.

You will not find many such things as a standard set of project documents. Therefore, each project will have its own set of documents specially crafted for that particular project. In the next few sections, you will get to know the detailed description of some of the key documents that are found in many project financing structures.

These documents can be classified into three groups.

1. Shareholder/sponsor arrangements
2. Loan and security documents
3. Project documents.

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## **17.4 SHAREHOLDER/SPONSOR DOCUMENTATION**

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### **17.4.1 FEASIBILITY STUDY AGREEMENTS**

Whenever company plans to invest into any project, it first goes with the feasibility study. Before investing into any project company wants to make sure that the project should be financially and technically feasible. To get this study done, firstly, feasibility study agreements are entered into by two or more companies that have agreed to undertake a proposed project. This initial agreement is made to deal with the matters relating to initial decision-making and allocation of tasks in relation to investigating a particular project or proposal. The scope of such agreement used to be quite specific like it deals with the terms upon which a party could withdraw from the arrangements, appointment of advisers and general cost sharing etc. The agreement is generally made for limited duration only.

There is another way by which companies can get into the agreements i.e. they join together to bid for a particular contract or concession. Once they get the bid then only they entered into formal joint venture agreement or shareholders' agreement so that they can save cost.

### **17.4.2 SHAREHOLDERS' AGREEMENT/JOINT VENTURE AGREEMENT**

There are certain projects where joint ventures are created. Under such circumstances, special purpose vehicle owned by two or more shareholders are formed to take the project forward. These shareholders will usually regulate the relationship between them by entering into a shareholders' agreement. On the other hand, where a joint venture structure is used, a joint venture agreement will usually be entered into. Whenever shareholders' agreement in relation to a project is entered, it is not significantly different from agreement relating to the ownership of any other company. This agreement covers following items:

- Contribution in share capital
- Sources of funding of the project company
- Management of SPV
- Voting requirements for different areas
- Dispute Resolution
- Dividends policy
- Disposal of shares and pre-emption rights.

A joint venture agreement is also made between partners but it will again contain some of the provision which are a part of shareholders agreement. However, it will not deal with the setting up and management of a special purpose vehicle.

Project lenders also play an important role in deciding the provisioning of the contract. There are number of issues with regard to the sponsors/shareholders which might be of great importance to lenders. Some of the key issues are highlighted here.

- Lenders would like to know the experience and credit worthiness of the sponsors/shareholders. Whenever, a subsidiary is appointed by shareholders/ sponsors to undertake any responsibilities or obligations with regard to a particular project, then the project lenders may ask for guarantees from the parent companies to support their subsidiaries until the project debt is repaid.
- Lenders would also like to see that the shareholders/sponsors obligations are spelt out in very clear terms. If they committing any resources or expertise for the special purpose vehicle or for the project, then lenders would like to see that which shareholder/sponsor will be providing which services and on what terms.
- Lenders would like to see that the shareholders/sponsors further equity contributions at a later date are clearly spelt out and under what terms and conditions these equity are being put up. For instance, lenders are likely to require that the shareholders put up their funds first before asking for loan commitment or at least proportionate to loan draw downs.
- If, the project company is a party to the shareholders' agreement and is the beneficiary of any rights and/or benefits under this agreement, then the project lenders are likely to want an assignment by way of security of the benefit of this agreement as part of their overall security package.

### **17.4.3 SPONSORS SHAREHOLDERS SUPPORT AGREEMENT:**

There are some projects where, the sponsors/shareholders will enter into a support agreement with the project company and the lenders. In this agreement, the main commitments that the lenders require from the sponsors/shareholders with respect to the project and the project company are as under:

- Lender would require management and technical assistance from sponsors/shareholders
- Lender would require sponsors/shareholders to provide funding, whether through subscription for equity or by the provision of loans. If it is loan then the loans should be unsecured and subordinated to the project loans.
- Lender would make sure that the sponsors/shareholders do not dispose of their shares in the project company
- Lender would make sure that the sponsors/shareholders give guarantee for cost overrun and timely completion of the projects.
- Lender would make sure that the sponsors/shareholders give security requirements supporting their commitments to provide equity at a later stage

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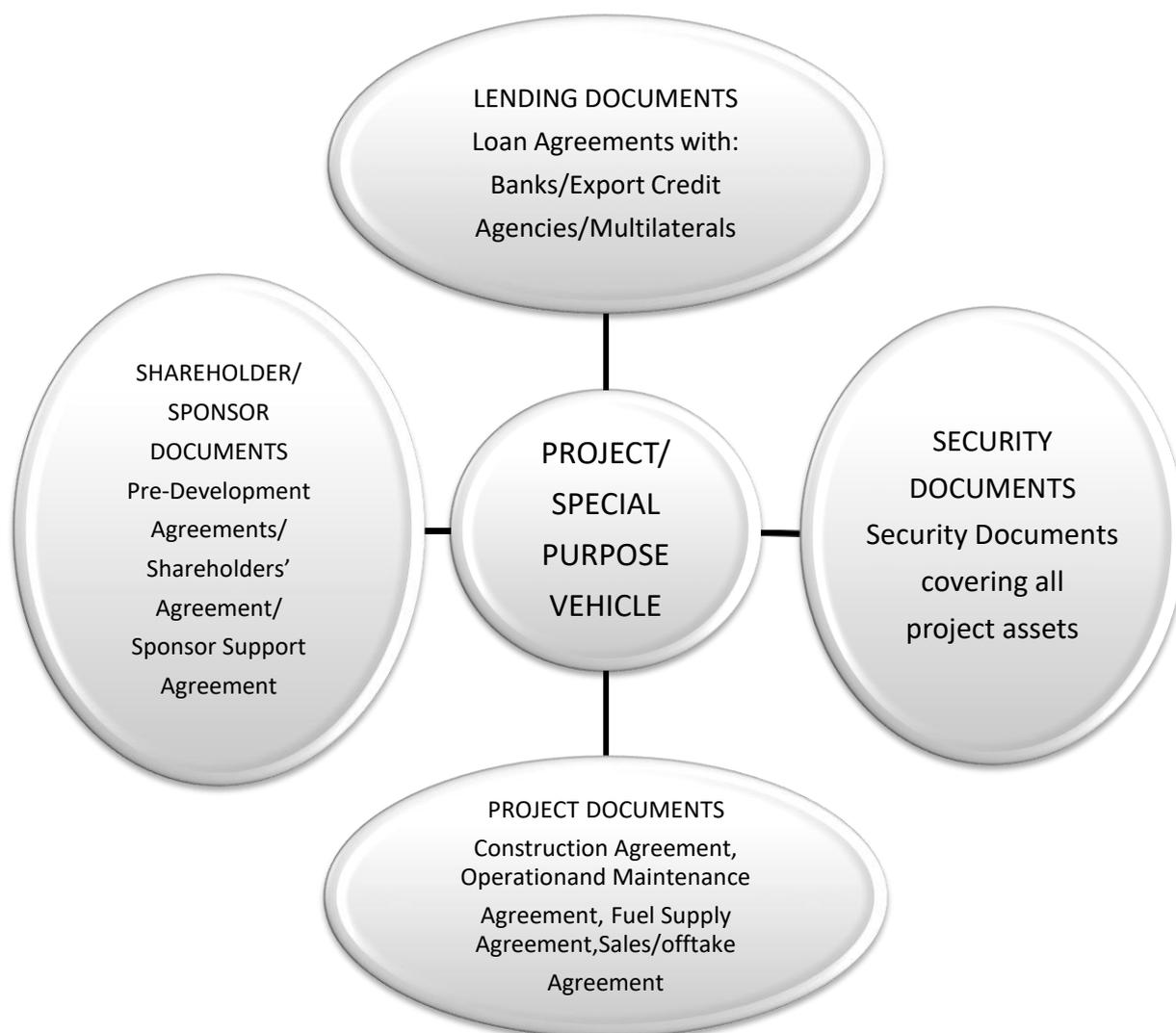
## **17.5 LOAN AND SECURITY DOCUMENTATION**

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### **17.5.1 PROJECT LOAN AGREEMENT**

Project Loan Agreement is generally a syndicated loan agreement which is entered into between the borrower, the project lenders and the facility agent. This agreement regulates the terms and conditions upon which the project loans may be drawn down and what items can be purchased from such loans. The agreement will contain the usual provisions relating to representations, covenants and events of default found in other syndicated loan agreements but expanded to cover the project, project documents and related matters. The calculation and payment of interest related provisions are also similar to standard currency loans. But the difference lies with the fact that interest will be capitalized during the construction period or until project revenues come on stream for all projects.

As far as the repayment terms are concerned, it will vary from project to project and will often be tied to the receipt of project cash flows. It also has some provisioning like dedication of a minimum percentage of the project's cash flow towards debt service. In such type of agreement, all project cash flows are flown to one particular account which is maintained by the agent or a security trustee or account bank and charged to the project lenders. Detailed mechanics relating to the calculation of project cover ratios and the preparation of banking cases and forecasting information are sought by the agreement documents. There will also be provision for the appointment of consultants, advisers and technical experts by the project lenders. The balance of the agreement will contain boilerplate provisions customarily found in Euro-currency loan documentation adapted, as appropriate, for a project financing.



**Fig-17.1 Project Financing Documentation**

## 17.5.2 SECURITY DOCUMENTS

This particular document is not standard and generally varies from country to country or states to states and will depend on the nature and type of assets that are the subject of the security. If a lender is willing to lend for a particular project then the taking of security in relation to project financing is usually done through a fixed and floating charge covering all of the property and assets of the project company. Here it is important to understand the concept of Fixed and floating charges. They are type of security provided to creditors over a debtor's assets. It is the debtor's ability to dispose of its assets that makes the striking difference between fixed and floating charges. Fixed charge gives limited ability floating charge gives full power to dispose of the assets.

In some states, appointment of a trustee also takes place whose main responsibility is to not only insulates the security from the insolvency of the institution holding the security but also facilitates the trading of rights and obligations by the banks without the risk of disturbing the security.

Sometimes the security trustee is appointed by the project lenders. Under these arrangements, terms of appointment, rights, duties and obligations of the security trustee are well defined in the security trust deed. It also contains the order of application of payments amongst the various groups of lenders. However, this is many times dealt separately with an inter-creditor agreement.

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## **17.6 PROJECT DOCUMENTS**

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### **17.6.1 CONCESSION AGREEMENTS/LICENSES**

Most of the current infrastructure projects in India are operated on Build-Operate-Transfer (“BOT”) projects basis. Under these projects, the concession agreement will be the key project document as it is the document that will vest in the project company the right to explore, exploit, develop or operate, as appropriate, the concession or other relevant rights to the project. At the same time, on the other hand, Project Company would need license for all necessary legal rights to exploit. Thus, for example, in an oil and gas financing in the UK continental shelf, the project vehicle will be a beneficiary of (or the beneficiary of a share of) a license issued by the Department of Energy and Climate Change which entitles it to explore for and exploit hydrocarbons on the terms set out in the license. On the other hand, in a BOT project, it will invariably be the case that the project vehicle (or its sponsors) will be granted a concession by the host government (or one of its agencies) with respect to the project.

The concession agreement, often comprising a BOT obligation, but sometimes a build-own-operate obligation, is popular particularly in countries where political or budgetary constraints prevent governments from developing essential and increasingly expensive infrastructure in the public sector. A concession can offer the host government certain advantages, including:

- Minimizing the impact of the project on its capital budget
- Introducing increased efficiency into the project
- Encouraging foreign investment and the introduction of new technology.

The BOT structure ends with the transfer back of the project to the relevant state authority at some future date. This may result in the state receiving a useful operational project, although sometimes the transfer is not provided to occur within the economic life of the project.

The salient features that may be found in concession agreements are as under:

- The duties and obligations imposed on the project company with respect to the project and the concession
- The grant of a concession for a designated period of time (from the lenders’ perspective this will need to exceed the term of the project loan by a comfortable margin)

- Certain undertakings given by the concession grantor, e.g. as to non-competition, provision of utilities and other services provisions concerning certain changes in law where appropriate, payment of concession fees
- Assignments and transfers (the project lenders will want to be certain that they can have the benefit of the concession assigned to them by way of security)
- Default and forfeiture terms
- Termination terms, including handover provisions (e.g. education and training where applicable).

As noted above, the project lenders will also be concerned to ensure that the concession grantor cannot unilaterally vary or terminate the terms of the concession, that the concession is transferable to any purchaser of the project (or project vehicle) and that the concession grantor should also assume at least certain risks associated with change of law and/or force majeure circumstances.

## 17.6.2 CONSTRUCTION CONTRACTS

The construction contract will be one of the key project documents where project lenders are taking all or any part of the construction/completion risk. There are a number of construction contracts standard forms that are used but it is amended from time to time to make it more suitable for different parties.

Turn Key contract is the most common arrangement. Here, a single contractor assumes all risk of on-time completion of a project which meets guaranteed performance standards. As far as the turn key project is concerned, the owner specifies overall performance and reliability standards for the plant. It has also been seen that in order to enable it to meet those specified requirements, the turnkey contractor assumes full responsibility for design, construction, supply, installation, testing and commissioning of the plant.

There is an alternative arrangement also to turnkey contract. Sometimes, sponsors may consider that they have the necessary experience to manage the design and construction of the project facility and may wish to undertake this themselves. Many times, they also leave certain responsibilities for it with the project company. They do it on their own so that they can achieve an overall cost or time saving.

Lenders will need to be satisfied with their technical capacity and resources if the construction management responsibilities are undertaken by the Project Company or sponsors. Many times they go for additional sponsor support to ensure adequate cover against the absence of a single contractor that has overall responsibility and the likely consequences of mismanagement during design and construction.

Project management structure is another alternative arrangement. In this arrangement, project management agreement is entered into with one project managing company which will then arrange for individual contractors to enter into contracts with the project company. In this case each of these individual contractors would carry out different parts of the project. One of the reasons lenders have a very strong preference for turnkey contracts is that they reduce the

risk of claims arising between the different contractors and of unallocated responsibilities relating to the project. If a turnkey contract is not utilized, then the project lenders will need to spend considerably more time analyzing the construction contracts and the risks arising from the construction arrangements.

The key provisions of a typical construction contract, and its significance for the arrangement of project finance, can be summarized as follows:

**Price and payment terms:**

Price and payment terms are other important agreements. Generally, contractors prefer to be paid by stage payments. In general, contractors get substantial advance payment upon or soon after signing the contract. Thereafter, contract would like to receive the payment in installments against achievement of specific progress “milestones”. These installments are necessary to create positive cash flow throughout the construction phase because these constructions take very long time to complete. In some cases, it have been observed that the project get completed in 20-25 years also. Therefore these payment term provisions are very important features of project document. These contracts provide the sense of security for the contractor regarding the certainty the price.

Lenders also look at any provision for variation of the price very carefully. Since it has the bearing on the cost of the projects and hence the financial viability. Lenders will make sure that any changes made by the project company related to construction work should be approved by lenders. Lenders interests will not be exactly the same as those of the sponsors. As regards the contractor’s liability for breaches of contract, sponsors will seek the optimum balance against price.

**Completion:**

Completion is also equally important agreement. Sometimes it happens that the construction gets delayed and it is beyond the control of the contractor. For example, work related to construction of metro rail may get delayed due to citizen’s agitation. Under such circumstances, the completion contract agreement becomes very important for all parties involved into the project. Project lenders accept postponement in limited specified circumstances and prefer as much certainty as possible. In case of delay in completion, the lenders will expect the contractor to pay liquidated damages for any delay like interest cost which incurs on continuing basis irrespective of whether the project is delayed for short period of time or for unlimited period.

At the same time, most contractors would also like to see that their liability for liquidated damages is limited and not overshooting. Though, this is made keeping in mind the interest of both the parties.

The construction contract will usually provide that completion occurs on the date upon which an independent consultant (usually appointed by the project company, subject to the lender’s approval) certifies that the facility is complete and all commissioning and performance tests have been successfully passed.

**Force majeure:** Sometimes the contractor is not able to complete the project in time and the reason for the delay is beyond his control. Under such circumstances, force majeure provides some legal relive in the form of protection and excuse a party to a contract from performing its obligations.

**Unforeseen ground risk:** This is the risk that construction may be slowed down or stopped and/or that changes in design or work methods may be required because the geotechnical condition of the site is not as could reasonably be expected. It can be used to trigger an increase in price or to delay the date by which completion takes place. The lenders will usually expect the contractor to take this risk.

**Warranties:** The contractor is supposed to provide quality work as stipulated in the contract agreement. This is called warranty. If the project company has given warranties of a construction nature to the concession grantor, the project lenders may want those warranties to be matched by corresponding warranties from the contractors.

**Insurance:** Project lenders view insurance as part of their security and therefore it is an important document. Contractors are generally made responsible for insuring the interests of the Project Company and lenders in the construction phase.

**Consents:** The construction contract or contracts will usually provide who is responsible for obtaining the governmental consents and permits required to carry out the project. Amongst the key consents may be the consents or approvals from the regulatory authorities/host government in the host country that all local health and safety, environmental, fire and building regulations and requirements have been satisfied at “completion”.

**Limitations on liability:** Contractors will usually attempt to limit their liability for breach of contract. Liability may be limited to a specified amount in respect of particular breaches or in some cases excluded completely. Project lenders will prefer either no limit at all or very high limits.

### 17.6.3 OPERATING AND MAINTENANCE AGREEMENTS

Operation stage comes when the project is completed and commissioned. The operation of most projects will require an experienced and skillful operator and it is important to see that operator’s performance is up to the mark in operating the project. Both the project company and the lenders want to make sure that operator of the project is well experienced and technically sounds so that it can manage and maintain the project well and up to their satisfaction. They generally choose that company to run who has similar work experience and has got good reputation in the market. Sometimes, project company itself wish to run and operate the project because they feel that they can better handle it and also they will be able to save cost. However, generally the operator is a third party that specializes in project and facilities operation and management and who will enter into an operating and maintenance agreement on arm’s-length terms with the project company. Some of the important features of an operating and maintenance agreement are given a under:

- Operator get the burden of all risk of operating and maintenance of the project so that Project Company and the lenders are insulated from this risk.
- Agreement should ensure that the project is operated in the most efficient manner so that it can maximize the revenue-earning capacity of the project.
- It can be maintained and managed within budgets agreed with the project company and the lenders.

There are three basic structures for an operating and maintenance agreement.

**Fixed price structure:** Under this structure the operator is paid a fixed price for operating the project. If there are cost overruns on the operating budget, then the operator will bear this risk. Conversely, if the operator is able to save costs, then it will earn greater profits. Because the operator in this structure is bearing the operating risk, fixed price contracts tend to be more expensive.

**Cost plus structure:** under this structure the project company will pay the operator an agreed fixed fee together with the costs incurred by the operator in operating the project. The fixed fee will represent the profit for the operator, who will look to pass on all the costs of operating the project to the project company. Under this structure, therefore, the project company is assuming the risk of increased operating costs. In view of this, the project company would require the right to terminate the contract at relatively short notice if the operator was not operating the project on budget or efficiently. In most cases, however, a degree of operating risk will be assumed by the operator in order to incentivize the operator to perform efficiently and cost-effectively.

**Incentive/penalty structure:** Under this structure the operator's remuneration will be tied to strict performance targets so that the operator achieves the agreed targets and get its bonuses. At the same time, if the operator is failed to achieve the agreed performance targets, it will suffer a penalty in the form of reduced compensation. The performance targets will be agreed in advance and set out in detail in the contract and will cover all principal aspects of the operation and maintenance of the project for which it is agreed the operator is responsible. It is usually the case that the maximum level of bonuses or penalties is capped in the contract.

Lenders invariably have a strong preference for the incentive/penalty structure as this not only insulates the project company from much of the operating risks associated with a project but also offers the best prospect of the project being efficiently operated on budget.

#### **17.6.4 FUEL SUPPLY AGREEMENTS**

Fuel such as coal, oil, gas or wood is very important fuel for some project and, therefore, these projects will rely on supply of these commodities in order to operate the facility. It should be of priority for both the party to make sure that that the project has access to a reliable and secure source of fuel for the entire duration of the project. Merely by fixing the access to reliable and secure source of fuel is not sufficient to run the operation for long period of time. Therefore, the next key issue will be whether the project company is able to contract with an agreed supplier on a long-term basis on a pre-agreed price structure. If the

project company is unable to achieve this, then it will be forced to purchase its fuel requirements on the spot market, which will expose it to both fuel availability and fuel price risks. Having secured an agreed fuel supply, the project company will then need to make the necessary arrangements for the supply of the fuel to the project. This may involve a third party or the fuel supplier may assume this responsibility itself.

In practice we observe two different types of fuel supply agreements commonly used in project financing.

**Take-or-pay contracts:** Under this arrangement the project company agrees to take delivery of an agreed volume of fuel at an agreed price over a specified period. If the project company does not take delivery of the agreed level of fuel, then it must nevertheless pay for it, although there is usually provision in the contract for the project company to take all or an agreed amount of such forgone fuel in a subsequent period. The fuel supplier's obligation is to supply the agreed level of fuel at the stipulated price.

**Sole supplier contracts:** Under this arrangement the project company agrees with a single supplier that it will purchase the project's entire fuel requirement from that supplier. However, the actual amount of the fuel requirement and the price to be paid for it will not necessarily be specified and, in any event, the project company will only pay for the fuel it actually takes. The fuel supplier, on the other hand, may or may not be obliged to supply all the project's fuel requirements.

Lenders are likely to prefer take-or-pay contracts as this secures for the project a secure source of supply at an agreed price.



### *Check Your Progress- A*

**Q1. What do you mean by Boilerplate Provisions?**

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**Q2. What do you understand by cost overrun?**

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### 17.6.5 SALES/OFF TAKE AGREEMENTS

These will be important where the project is dependent upon a guaranteed off take for the project's products. A long-term sales contract may provide for sales on arm's-length terms, with the price calculated by reference to market prices at the relevant time, but not commit the purchaser to buy. Ideally, and this is what the lenders will be looking for, the project company would require a guaranteed cash flow from which to repay the project loan.

Different types of sales agreement have been developed to guarantee the amount and/or continuity of cash flow. The most popular of these are:

- Pass through agreements
- Take-or-pay agreements

Where charges are calculated on a pass-through basis, they are calculated by reference to the costs incurred by the project company which is passed through to the buyer. This is a common structure in power projects. Typically, the costs passed through to the buyer can include the whole or any part of the costs of purchasing fuel or other commodities required for the project, repayments of principal to the project lenders, payments of interest to the project lenders, operating and maintenance costs, administrative costs, insurance costs and an amount representing the sponsor's return on capital. In each case, the costs passed through are those relating to the period to which the payment by the purchaser/off taker relates.

In a take-or-pay agreement, as is noted above, the buyer pays for supplies of the project company's product, provided that they are available for delivery even if the buyer does not require them. There will often be a "hell or high water" provision which will attempt to establish that the buyer must pay despite non-performance by the seller or the existence of circumstances which would otherwise frustrate the contract. The type of sales/off take agreement will depend, to a large extent, on the product in question. For example, in the gas industry, long-term off take contracts are very common, whereas in the oil industry they are rare, most oil being traded spot or in the short futures market.

One of the issues that needs to be addressed when considering the use of take-or-pay (and similar) contracts is the enforceability of them. There are two potentially problematic areas. First, there is a risk that in some jurisdictions they may be attacked on the basis that they comprise a penalty. Second, they may be attacked on the basis of inadequacy of consideration. So far as English law is concerned, the better view is probably that most take-or-pay agreements will not be viewed as amounting to the imposition of penalties. On the consideration point, English law does not concern itself with the adequacy of consideration. However, other jurisdictions may (and probably do) take a different view on these issues and both the project company and the lenders will be concerned to check the exact legal position.

### 17.6.6 OTHER PROJECT DOCUMENTS

Other relevant project documents, depending on the project, might include through-put agreements, tolling agreements, technology/operating licenses, consultancy contracts, utility agreements, refining agreements and transportation contracts.

In all cases, however, it will be crucial to ensure that, so far as possible, all of these agreements fit together so that if, for example, the project company assumes obligations to one party, it is able to pass those obligations on to another party. It must be borne in mind that any residual liabilities resting with the project company will ultimately be incurred by either the project sponsors or the project lenders, as appropriate. Indeed, both of these parties will be keen to ensure that any such liabilities are in fact incurred by the party most able to manage and/or avoid them.

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## 17.7 SUMMARY

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In this unit we have discussed the role of documentation in project financing. It is very important to first identify various risk factors involved in implementing any project. These risk factors have to be apportioned amongst the various parties having an interest in that project. The way in which this risk allocation is implemented is through the complex matrix of contractual relations between the various project parties as enshrined in the documentation entered into between them. Accordingly, the contracts between the various project parties assume a huge significance and it is these documents that are the instruments by which many of the project risks are shared amongst the project parties. First such set of documents which we discussed were relating to Shareholder/sponsor arrangements. Thereafter, we discussed various loan and security documents- like project loan and security documents. Third and last documents were relating to project related documents. Here, we discussed Construction agreement, Operation and Maintenance agreement, Fuel Supply agreement, Sales/off take etc.



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## 17.8 GLOSSARY

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**Fixed and floating charge:** Fixed and floating charges are security provided to creditors over a debtor's assets. It is the debtor's ability to dispose of its assets that makes the striking difference between fixed and floating charges. Fixed charge gives limited ability for creditors to recover. While under floating charge, creditors are free to dispose of the assets in the ordinary course of business.

**Insolvency:** When a company is not able to meet its financial obligations with its lender then company becomes insolvent. Post insolvency, the assets of the company are disposed of so that the lenders can recover its dues.

**Sponsor:** Sponsor is a person who is involved in establishing a project. The person can be the shareholder or owner of all or a part of the project.

**Pre-emption rights:** When the company issue new shares to raise money, in that case, existing shareholders get the first refusal. This right of refusal is pre-emption rights. Which means that the new shares in a company cannot be offered to other potential investors without first being offered to the current shareholders?

**Drawdown Loan:** Under this facility, company can take further advances without much formality.

**Project Cover Ratios:** This ratio measures the project's discounted cash flow position during a particular period with respect to project debt at a specified time.

**Syndicated loan:** When a group of lender joins hands together to fund a project then it is termed as syndicated loan.




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- Project Management, Dennis Lock, Gower
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## 17.11 TERMINAL QUESTIONS

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- Q1. Discuss the role of documentation in project financing.
- Q2. Explain various documentations relating to Shareholder/sponsor agreements.
- Q3. Elaborate various loan and security documents in project financing.
- Q4. Discuss and comment on various project related documents.

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## **UNIT18 PROJECT AGREEMENTS**

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### **18.1 Introduction**

### **18.2 Objectives**

### **18.3 Project Finance**

### **18.4 Project Agreement**

### **18.5 Terms of Project Agreement**

### **18.6 Models of Project Agreement**

### **18.7 Off Take Contract**

### **18.8 Availability- Based Contract**

### **18.9 Concession Agreement**

### **18.10 Project Agreement as Concessional Agreement**

### **18.11 Summary**

### **18.12 Glossary**

### **18.13 Reference/ Bibliography**

### **18.14 Suggested Readings**

### **18.15 Terminal & Model Questions**

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## **18.1 INTRODUCTION**

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The aim of this unit is to deliver an outline of Project Agreement. The word project agreement is used in project finance. Project Finance is the technique of sourcing long-term debt financing for major projects through 'financial engineering' based on advancing against the cash flow generated by the project alone. Financing the project cannot be project finance under this term, a project is financed but it is financed by the cash flow which is generated by the project itself, therefore it requires a legal document to be prepared for the purpose of project financing which is known as project agreement.

A negotiated and usually legally enforceable documents or understanding made between two or more legally competent parties can be demarcated as an agreement i.e. The parties who are qualified & eligible to enter in to an agreement or contract. The term Project agreement thus can be referred to as that agreement which is made between the two competent parties for any project.

A project agreement basically oversees the relationship, obligations & rights between the parties to agreement throughout the lifecycle of the project. These agreements are generally the project company's operational contracts abide the two competent parties by the law for the work involved in the project. This unit will help to understand what Project Finance is and what is meant by project agreements accompanied by the detailed explanations on the models or types of the project agreement which can be established between two distinct parties based on diverse situations.

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## 18.2 OBJECTIVES

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After reading this unit you will be able to understand;

- Project Agreement
- Terms of Project Agreement
- Models of Project Agreement
- Off Take Contract and
- Concession Agreement

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## 18.3 PROJECT FINANCE

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Whenever an entrepreneur thinks to start any project, finance is the basic requirement which comes in his mind. Project finance is used for both long term and short term projects. The sources of finance can be identified, internal as well as external. Project Finance can be characterized in a numerous ways and there is no universally adopted definition to it. It is a very old concept which has gained its reputation during the last two decades. The configuration of Project finance differs between various industry sectors and from deal to deal, since each project has its own unique characteristics. But there are common principles underlying the project-finance approach.

The **Export-Import Bank of the United States** defines project finance as: *"...the financing of projects that are dependent on project cash flows for repayment, as defined by the contractual relationships within each project. By their very nature, these types of projects rely on a large number of integrated contractual arrangements for successful completion and operation. The contractual relationships must be balanced with risks distributed to those parties best able to undertake them, and should reflect a fair allocation of risk and reward. All project contracts must fit together seamlessly to allocate risks in a manner which ensures the financial viability and success of the project".*

The rating agency **Standard & Poor's** defines it as:

*"...non-recourse financing of a single asset or portfolio of assets where the lenders can look only to those specific assets to generate the flow needed to service its fixed obligations, chief*

*of which are interest payments and repayments of principal. Lenders' security and collateral is usually solely the project's contracts and physical assets. Lenders typically do not have recourse to the project's owner, and often, through the project's legal structure, project lenders are shielded from a project owner's financial troubles. Project-finance transactions typically are comprised of a group of agreements and contracts between lenders, project sponsors, and other interested parties who combine to create a form of business organization that will issue a finite amount of debt on inception, and will operate in a focused line of business over a finite period."*

Project finance in other terms can be defined as the providing finance for public services, long-term infrastructure, and industrial projects based upon a non-recourse financial structure, in which the project debt and equity is used to finance the project which is eventually supposed to be paid back from the cash flow produced by the project. The financing of a project can be linked to a loan structure that depend primarily on the project's cash flow for repayment, with the project's assets, interests and rights held as a secondary or collateral security. In general conditions, the Project finance is easily adopted by private sector in comparison to public sector, because companies can easily fund major project off balance sheet.

As already discussed, the Project Finance has no universal definition, it can be described in a variety of ways thus as a financing method it can be defined as:

*"The raising of finance on a Limited Recourse basis, for the purposes of developing a large capital-intensive infrastructure project, where the borrower is a special purpose vehicle and repayment of the financing by the borrower will be dependent on the internally generated cash flows of the project"*

The above definition raises numbers of questions in itself, Including:

- Why Project Finance is normally used to finance only the large capital intensive infrastructure projects and why not the short projects?
- Why is the debtor preserved as a Special Purpose Vehicle (SPV) under a project financing?
- What happens if the internally produced cash flows of the project are not adequate to repay the financiers of the project?

In order to answer all these questions we need to study about the project finance, in depth and so the next section focuses on emphasizing about the project agreement as in order to make it legally abided by the parties, the agreement or the contract need to be formulated.

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## **18.4 PROJECT AGREEMENTS**

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*A Project agreement can be defined as an agreement made between two or more parties to accomplish a certain goal in a certain way. For example, in case of construction or real estate Company, a project contract or an agreement may take the form of an agreement between a*

property owner and a builder in which the builder specifies points and agrees to build a house on the property by a certain time in a certain way, and, in exchange, the property owner declares and agrees to make certain remuneration to the builder for the work performed.

In the context of project financing, a project agreement thus refers to the suite of agreement underlying the projects. It is a contract that delivers the framework under which the Project Company settles to obtain its revenues. It is basically a type of project contract which delivers a basis for the Project Company's construction and operation of the project. The Sub-Contracts are also the kind of contracts, which frame the rest of the Project Contracts, these are discussed in detail in the next unit.

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## 18.5 TERMS OF PROJECT AGREEMENT

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There are various confusing terminologies related to project agreement. Process-plant or PPP projects are sometimes classified with reference to who owns the project at various stages of its life. These terminologies are mentioned below:

- **Build-Operate-Transfer ('BOT') Projects':** Concession is involved is involved under this type of project financing. Hereunder, a private entity gets a concession from the private or public sector to finance, construct, design and operate a facility which has been stated in the concession contract. In this type of project, the Project Company never keeps the assets which are used to deliver the project services. However the Project Company constructs the project and thus it has the right to earn revenues from its operation of the project, under a Project Agreement with a Contracting Authority. It's not only the concession but it also involves the other build and operational provisions of the company. The Project Company may also be granted a lease of the site of project and it can also be made to have associated buildings and equipment during the life cycle of the project, this all concept of provision the project is known as build-lease-operate-transfer ('BLOT') or build-lease-transfer ('BLT'). This project structure is basically used only where the public nature of the project makes it inappropriate for the parties and programmes to be owned by a private-sector company for example, the construction of a bridge, road, or tunnel under all these situations ownership remains with the public sector and thus it is primarily used for PPPs i.e. Public-Private-Partnership.
- **Build-Transfer-Operate ('BTO') Projects:** These are similar to a BOT project, as discussed above, except the fact that the Contracting Authority here, does not take over the possession of the project until the construction is completed.

The Private sector designs and builds the facility for the project under these kinds of projects, but the transfer of it to the public owner takes place only at the conclusion or completion of the construction. Here, the concessionaire is given the right to operate and get the return on investment.

- **Build-Own-Operate-Transfer (BOOT') Projects:** Under this type of project, the Project Company builds the project and owns and operates it for a set period of time, after making the revenues from the project possessed during the set period of time, and at the end of it, the possession is transferred back to the Maker/Contracting Authority of the project. Let us understand using an example of power company, the Project Company may construct a power station and as per agreement clauses can own it for 20 years during which time the power generated is sold to an Offtaker (e.g. a state-owned electricity distribution company), so here till 20 years, the revenue will be earned by the project company and at the end of that time i.e. 20 years, the ownership is shifted back to the Off taker.
- **Build-Own-Operate ('BOO') Projects:** These are mentioned to those projects whose possession remains with the Project Company throughout its life time. Taking the same example of Power Company, under BOO, a power station in a privatized electricity industry or a mobile phone network, the Project Company hereunder therefore gets the advantage of any residual value in the project. (Project Agreements with the private sector also normally fall into this category.)

There are many other variations on these acronyms for different project structures, and the project-finance market does not always use them consistently-for example, 'BOT' is often used to mean 'Build-Own-Transfer,' i.e. the same as 'BOOT.' It makes little difference from the project-finance point of view whether or not the possession of the project is transferred to an Off taker/Contracting Authority in the short or the long term, or remains forever with the Project Company, or is never detained by the Project Company. This is because the real value in a project financed in this way is not in the ownership of its assets, but it is the right to receive cash flows from the project. Although these different ownership structures are of limited importance to lenders but any long-term residual value in the project is obviously important for an Offtaker/Contracting Authority, and also to the investors in assessing their likely return. This is also relevant to the lenders and other related parties from the security point of view.



### *Check Your Progress- A*

**Q1. What are the basic difference between Projects' and Build-Transfer-Operate('BTO') &Projects Build-Operate-Transfer ('BOT') ?**

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**Q2. Define Build-Own-Operate ('BOO') Projects.**

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**Q3. What is meant by Project Finance?**

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**Q4. Define the term Project Agreements?**

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## **18.6 MODELS OF PROJECT AGREEMENT**

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A Project Agreement as discussed about it in the previous section, are basically divided into three kinds having different characteristics mentioned to as models here. There are main three models for a Project Agreement:

- An **Offtake Contract** (i.e. a process-plant project), under this kind of contract, the Project Company makes a product and sells it to an Offtaker;
- An **Availability-based Contract** (i.e. the contract which is based on the PFI- Private Finance Initiative Model), Under this contract, a Contracting Authority recompenses a Project Company for making the project available for use.
- A **Concession Agreement**, under this agreement, the Project Company delivers a public service, and collects User Charges for doing so.

There are many common characteristics under these models. The confusing lists of 'PPP-like' contracts, which are often counted as PPPs, do not require the project finance, and thus is reviewed differently under the agreement. It should be taken care of that although there are many legal issues to agreement, they are not intended as a commentary on all the legal ramifications of Project Contracts and the associated financing documentation, but the concentrate on the key issues are likely to emerge in commercial negotiations between the Offtaker/ Contracting Authority, Project Company and the creditors.

The next section of this unit focuses on the models in detail to deeply understand about the project agreements and its types.

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## 18.7 OFFTAKE CONTRACT

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An offtake contract usually eliminates the volume and price risk and also provide predictability for sales and sometimes also. These types of Contract is typically used on process-plant projects i.e. a project that produces a product. Such agreements provide the Offtaker (e.g. a power purchaser) with a secure supply of the required product and the Project Company with the ability to sell its products on a pre-agreed basis. (It should be noted that an Offtake Contract can be signed with a Contracting Authority, taking the example of a state power distribution company, or a private-sector counter party i.e. a private-sector power-distribution company.)

Going back to the principles of project agreement, if a high ratio of project-finance debt is to be raised, the risks taken by the Project Company in selling its product must be limited; an Offtake Contract is one of the easiest ways of limiting these risks and thus used generally.

### TYPES OF OFFTAKE CONTRACT

Offtake Contracts can take various forms, there are primarily six types of offtake contracts which are:

1. Take or Pay Contract
2. Take and Pay Contract
3. Long term sales Contract
4. Hedging Contract
5. Contract for Differences
6. Throughput Contract

These contracts differs in feature depending on the conditions.

- 1. Take or Pay Contract:** Off taker must buy the project company's product no matter what is based on an agreed price. In this type of contracts there is a need to immediately check the availability clause and *force majeure* because usually the Project Company is only paid if it can make the output otherwise not. And for the unforeseen reason if the product is not available, the offtake will not pay the price. These contracts generate revenue predictability to the projects thus it should be emphasized that such contracts are rarely on a hell or high water basis.
- 2. Take and pay contract:** Under these types of contract, the off taker pays only if it purchases the product on a pre-negotiated price. This type of contract is typically used for input supplies, for example for the purpose of contracts of fuel or raw materials.
- 3. Long-term sales contract:** under such type of contract, the offtake agrees to take agreed only upon quantities of product but price here, is based on an indexed price or market prices at the time of purchase. Therefore demand risk is diminished but the price risk remains as it is, even if it is indexed to CPI, then the chances of deflation will cause a drop in revenue. One can find examples of LT sales contract in mining or

oil & gas projects. For Deflation risk, some contracts may have a floor price for the product.

4. **Hedging Contract:** Hedging contracts are found mostly in themining projects& merchant power sale markets. For example Barrick Gold (TSX:ABX) had put choice for sales contracts. If price of Gold increases above Rs. 27000 the price of output (gold) were capped at the negotiated price. Occasionally there can be a collar (a call and a put option) therefore the price can only vary in a narrower band then the market high/low.
5. **Contract for differences:** under CfD structure is the same as hedging contract except the project company here sells the output into the market and not to the off taker. It is also similar to take or pay contract with an agreed tariff. Long term CfDs are used in the electricity market. The electricity must be sold within the country's electricity pool for some countries, it is CfD instead of PPA (power purchase agreement)
6. **Throughput Contract:** These kinds of contracts are usually found in pipeline projects. It is an agreement made between two parties wherein a service or commodity is secured by one of the parties for a definite period of time. The throughput contracts can be used by small business as an indirect form of financing for projects, by providing access to materials rather than real money.

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## 18.8 AVAILABILITY-BASED CONTRACT

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Availability-based Contracts are the most broadly used type of PFI-Model projects. The place of a Project Agreement in the PFI Model is set out in Figure 2 below.

The Examples of Availability-based PFI-Model projects, all of which would relate to public infrastructure (and hence are forms of PPP), includes:

- public-sector infrastructure such as schools, hospitals, prisons, , social housing or government offices, where payments are commonly paid by the Contracting Authority for availability of the building;
- a transportation facility such as a tunnel, road or bridge, or parts of the system, such as trains or signaling for a railway line, where payments are made by a public-sector system operator (as Contracting Authority) for availability of the system, rather than by the public (or a Contracting Authority) for usage.

It has been noted that the significant elements of Availability-based PFI-Model Project Agreements are directly derived from PPAs, since in the 1990s, when the PFI projects were firstly undertaken, the market at that time was very much familiar with PPAs, and it made sense to try to use an existing model rather than start from scratch. In summary, a typical PPA, as described above, has three basic requirements:

- **output:** can the power station generate x MW of power?

- **availability:** can the power station produce its full output as and when required (Le. is it available)?
- **throughput:** the Energy Charge payment for fuel use (usually not relevant in this case).  
A PPA does not tell the Project Company about how to design, build or maintain the power station?

Basically, these are matters for the Project Company & its investors to decide. On the other part, as far as the Offtaker is concerned, the power station just needs to be available, when required, to produce the agreed output in MW.

These principles are basically applied in an Availability-based Project Agreement through the provisions relating to the

- Service Fee*
- Output Specification*
- availability requirements and*
- performance penalties*

Some of the Service-Fee costs may be calibrated against market changes.

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## 18.9 CONCESSION AGREEMENT

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Project Agreement between a Project Company and a Contracting Authority, under which, in return for building, designing, financing and operating a project to provide or upgrade public infrastructure, the Project Company may levy User Charges, i.e. tolls, fares, or other payments by users of the project is called Concession Agreement.

Under concession agreement, the possession of the project rests in the public sector, with the Project Company having a license or lease to use it for the period of the Concession Agreement, after which it is to be returned to the Contracting Authority. Examples of Concession Agreements include projects for building (or upgrade) and operation of:

- A bridge ,toll road or tunnel for which the public pays tolls;
- A transportation system (e.g. a railway or metro) for which the public pays fares;
- Ports and airports, mostly with payments made by airlines or shipping companies.

The nexus of Project Contracts surrounding a Concession Agreement is a long-established PPP structure. The key difference of it from the PA Model is that in the situation of a Concession the Project Company is taking the usage risk.

**a) USER CHARGES**

User Charges are normally based on the estimated revenues required to cover the project's fixed and variable costs, in a similar way to the Service Fee for a PH-Model project. The main difference that may arise is of course that the total revenue is not fixed in this case, but it will vary with usage.

Generally, a maximum User Charge is often set, with indexation for inflation and currency movements if appropriate, within which the Project Company has flexibility to fix User Charges, but subject to provisions preventing discrimination against any particular class of user. But this would not prevent, like, the higher tolls being charged for a truck than a car in a toll highway: such differentials may also be set out in the Concession Agreement. Similarly tolls may vary by time of day-e.g. a road toll may be higher during rush hours.

The Concession Agreement has to make provision for enforcement of payment of User Charges: this may require the police to stop and arrest drivers who have not paid the tolls, or give the Project Company the right to pursue culprits in the courts. (Note that the Project Company may have to pay for the cost of policing the concession.)

**b) COMPETITION**

Competition is an important clause after the user charges. Some Concession Agreements may not fix the User Charges in advance, but rely on competition to ensure that they remain reasonable. Obviously there has to be real competition for this to work, as could be the case, for example, where there is a parallel free road of reasonable quality, or another sea port which can be used instead of a port which is the subject of a Concession Agreement. On the other hand if the tolls are fixed like in case of user charges, competition from competing modes of transport is often an issue in Concession Agreements. For example if the Contracting Authority constructs a new (free) road which takes vehicles away from a concession road, it may have to reimburse the Project Company for loss of revenue. The problem with this is that it may inhibit the Contracting Authority's long-term planning for the road or other transportation network, and in the worst case the Contracting Authority may have to buy back the concession.

**c) REVENUE SHARING**

If traffic is well above the originally agreed projections, the Contracting Authority may require a share of the excess revenue derived from this. This principle is especially important if the Contracting Authority is providing any financial support for the project. Such 'upside sharing' should be based on gross revenues, rather than other measures such as the investors' rate of return, since it is rather easy for the latter to be manipulated to the Contracting Authority's disadvantage (e.g. by inflating costs and so reducing the apparent rate of return).

**d) USER ISSUES**

Customer service' is somewhat more important in a Concession agreement, since users are paying for their use of the facility and therefore expect more of it. Service standards are of course included in the Concession Agreement, with penalties for failure to achieve these. There also needs to be a mechanism to resolve disputes.



### *Check Your Progress- A*

**Q1. What are the types of Offtake Contract?**

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**Q2. Write a short note on Concessional Agreement.**

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## **18.10 PROJECT AGREEMENTS AS CONCESSIONAL AGREEMENT**

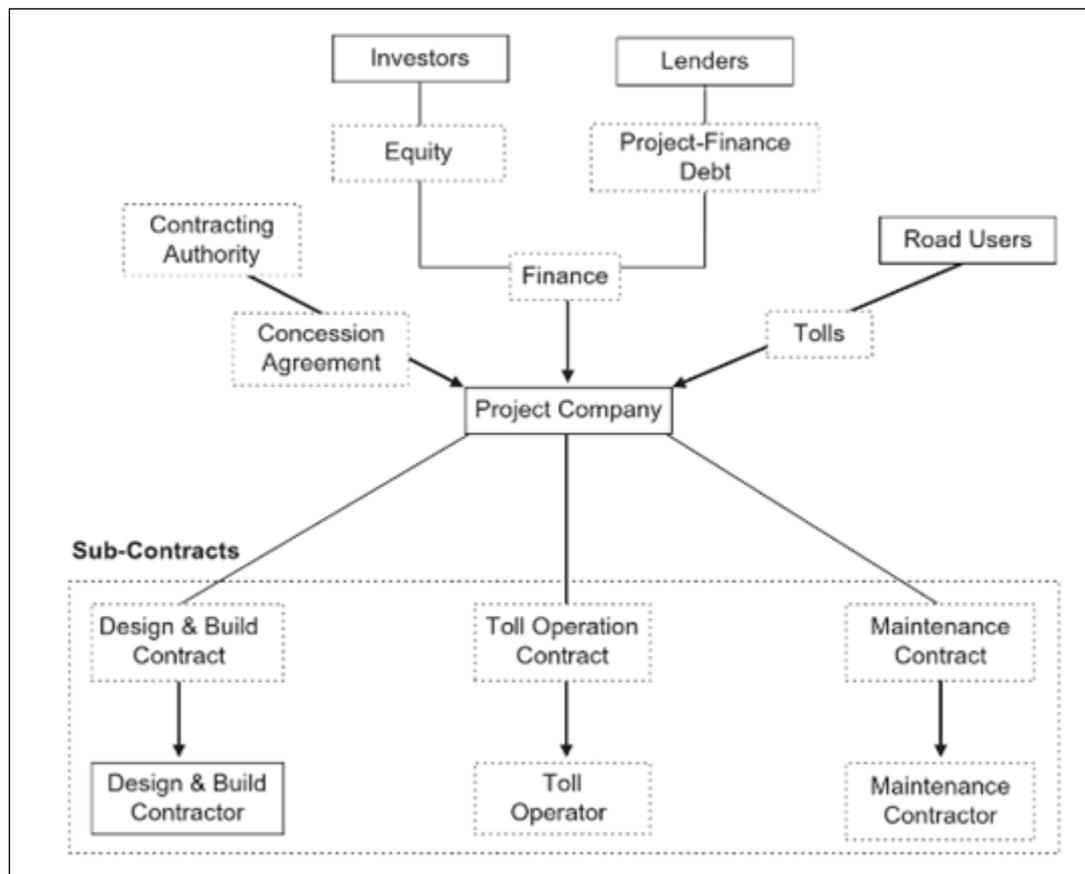
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Project Agreement can also be termed as Concessional agreement in certain cases. As figure 1, below, sets out the typical basic structure for a toll-road Concession.

The Project Agreement here is a 'Concession Agreement', which facilitates for User Charges (tolls) to be paid by road users to the Project Company.

The key Sub-Contracts are:

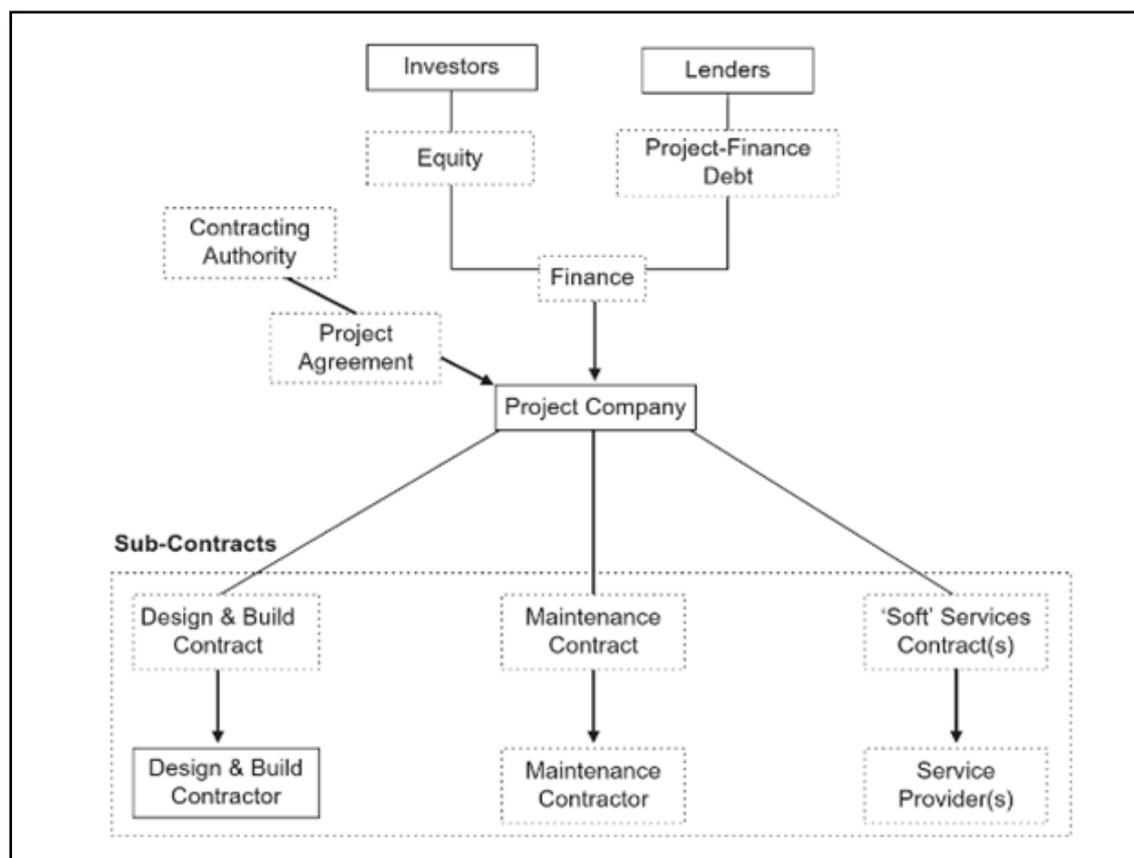
- An Operating Contract to operate the tolling system;
- A Design & Build Contract ('D&B Contract') to design and build the road;
- A Maintenance Contract for the continued maintenance of the road.



**Figure 18.1: Toll Road Concession**

Figure 2 sets out a typical basic structure for the PFI Model as used in a social infrastructure project such as school or hospital. The term Project Agreement is usually used for the contract with the Contracting Authority, under which Service-Fee payments are generally paid to the Project Company. The key Sub-Contracts in this case could include:

- A Maintenance Contract for maintenance of the building's physical structure and key equipment;
- A Design & Build Contract ('D&B Contract'), to design and build the building;
- One or more 'Building-Services Contracts', for the provision of services such as cleaning, catering and security.' (Or this may be dealt with as part of one contract covering both maintenance and services.)



**Figure 18.2: PFI Model**

There are many variations on the structures set out above, and all of the 'building blocks' shown in Figures 1 and figure 2 are not found in every project financing, for example:

There are various types of project which do not operate under a Project Agreement, e.g. those that sell a product or service to private-sector buyers in a commodity-based or open competitive market, such as oil, gas, mining or telecommunications projects, or 'merchant' power plants, although they usually have some form of license to allow them to do this in lieu of a Project Agreement.

The Project Company rather than just sub-contracting the operation and maintenance may itself operate the project, perhaps with an agreement for technical assistance from one its shareholders.

There is also the privatized infrastructure such as ports and airports which are based either on a license to function rather than a Project Agreement (but if the project is a PPP a Project Agreement would normally be used).

A project for a mobile-phone network (and similar projects where a network of any kind is being constructed) is usually built in stages rather than under a single Construction Contract, and has no Offtake Contract.

If the product of the project is a commodity for which there is a wide market (e.g. oil), there is not necessarily a need for an Offtake Contract (and as can be seen in Figure 1, a Concession does not have an Offtake Contract).

Projects that do not use fuel or a similar raw material e.g. hydro-, wind- or solar-power generation, it do not require an Input-Supply Contract.

Of course none of these structures or contractual relationships is unique to project finance. Any company may have investors, sign contracts, get licenses from the government, and so on; however, the relative importance of these matters, and the way in which they are linked together, is a distinguishing feature of project finance.

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## 18.11 SUMMARY

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Project financing is mainly an exercise in the equitable allocation of a project's risks between the various stakeholders of the project. Certainly, the genesis of the financing technique can be traced back to this principle. In order to share the risks inherent to maritime trading, Roman and Greek merchants used project financing techniques. A loan would be advanced to a shipping merchant on the agreement that such credit would be reimbursed only through the sale of cargo brought back by the voyage (i.e. the financing would be repaid by the 'internally generated cash flows of the project', to use contemporary project financing terminology).

The principal agreement for any PFI project, the project agreement governs the relationship, rights and obligations between the public authority and Project company throughout the period of the project. It can also be called a concession agreement.

In early PFI projects, it was common to have separate agreements for different phases of the project, such as a development agreement for the design and construction phase and an operating or facilities management agreement for the operating phase. However, these days it is more common to have a single project agreement covering all aspects of the project.

There are three models of project agreement viz. **Offtake Contract, Concession Agreement & Availability-based Contract**. These Models have been discussed in detail giving explanation to each sub parts of the models.

Project agreement is a type of contract necessary to be made in any project financing between the parties to make it legally bound to them.



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## 18.12 GLOSSARY

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**Project Finance:** It is the method of raising long-term debt financing for major projects through 'financial engineering' based on lending against the cash flow generated by the project alone.

**Project Agreement:** It is defined as an agreement formed between two or more parties to accomplish a certain goal in a certain way. It is a principal agreement made for any project between the two competent parties.

**Offtake Contract:** It is an agreement like a process-plant project, under which the Project Company makes a product and sells it to an Offtaker.

**Availability-based Contract:** It is based on the PFI- Private Finance Initiative Model, where a Contracting Authority makes payment a Project Company for making the project available for use.

**Concession Agreement:** A Concession Agreement is a Project Agreement between a Project Company and a Contracting Authority, under which, in return for designing, building, financing and operating a project to provide or upgrade public infrastructure, the Project Company may levy User Charges, i.e. tolls, fares, or other payments by users of the project.

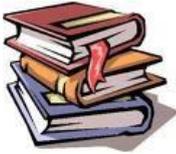


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4. Project Finance for Public-Private Partnership (PPP) projects
5. Scott L. Hoffman - The Law and Business of International Project Finance 3rd edition
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## 18.15 TERMINAL QUESTIONS

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- Q1. What Project agreements can be termed as Concessional Agreement? Explain with an example.
- Q2. Discuss the various models of Project Agreement?
- Q3. Differentiate Between Offtake Agreements and Availability Based Contracts.

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## **UNIT19 SUB-CONTRACTS AND OTHER RELATED AGREEMENTS**

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### **19.1 Introduction**

### **19.2 Objectives**

### **19.2 Sub-contracts and others related agreements**

### **19.3 Construction contract**

### **19.4 O&M/Maintenance Contract**

### **19.5 Building- services contract**

### **19.6 Insurance**

### **19.7 Site lease and other usage rights**

### **19.8 Permits and others rights**

### **19.9 Parent – company guarantees**

### **19.10 Summary**

### **19.11 Reference/ Bibliography**

### **19.12 Suggested Readings**

### **19.13 Terminal & Model Questions**

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## **19.1 INTRODUCTION**

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This unit deals with the key provisions that are usually found in major sub-contracts. These kind of contracts includes all those project contracts which may be signed by the project company. As discussed earlier In the last chapter about the project Agreements there are few sub contacts and other related Agreements as well which are discussed in detail here in the present chapter . These Sub-Contracts may consist of:

- Construction contract
- O & M/Maintenance Contract
- Building Services Contract
- Insurance
- Site Lease
- Permits and other rights- not actually a contract but an important framework for all the project Contracts
- Parent – company guarantees for sub contracts.

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## 19.2 OBJECTIVES

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After reading this unit you will be able to know about;

- Sub-contracts and others related agreements
- Construction contract
- O&M/Maintenance Contract
- Building- services contract
- Insurance
- Site lease and other usage rights

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## 19.3 SUB-CONTRACTS AND OTHERS RELATED AGREEMENTS

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Sub-Contracts includes all those direct Agreements, which link the leaders (and the Contracting Authority/Offtaker) to the project Contracts.

As already mentioned all of these contractual building blocks are not found in every project financing, but one or more of them usually are, and it is important to understand their scope, purpose, and structure as they usually form a major element of the foundation on which the project financing is built. Change in any project contracts normally require the lenders' consent.

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## 19.4 CONSTRUCTION CONTRACT

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In the conventional contracting for a major project, the project developer, or a Contracting Authority uses an architect and / or consulting engineer to draw up the design for the project, with detailed drawing, bill of quantities, etc., based on which a bid for the construction is invited; any specific equipment required is procured separately. But even if the Sponsors or Contracting Authority have the experience to arrange the work under separate contracts and coordinate different responsibility between different parties. This is not usually acceptable to lenders in project finance who want there to be 'one-stop' responsibility for completing the project satisfaction, since they do not want the project company to be caught in the middle of disputes and so as to investigate who is actually responsible for a failure to do the job correctly.

Therefore the construction contract in a project financed project is usually in the form of a contract to design/engineer the project. Procure or manufacture of any plant or equipment requires this kind of contract to be formed. Thus, to construct the project, company creates a 'turnkey' responsibility to deliver a complete project fully equipped and ready for operation – i.e. a D& B or EPC Contract.

In addition to this, the contracting for major projects means to appoint a contracting or engineering company as their construction manager, with their responsibility of handling all aspects of the construction of the project against the payment of a management fee. The fee

charged by the engineering company may however vary according to the final outcomes of the construction costs.

Although this may be considered as an economically efficient way of handling major project, but as there is high cost involved in it, a variable construction cost is not acceptable to lenders because of a cost overrun for which there may not be sufficient funding, or which adds so much to the costs that the project cannot operate economically. The construction contract therefore also provides for the work to be done by the construction contractor at a fixed price.

Finally the requirements of the project agreement has to be matched up by the project completion in order to make the project gets completed by the fixed date. So we can also say that the Construction Contract also provides for a fixed project completion date.

Such a turnkey Date- certain , Fixed- price, Construction Contract transfers a significant amount of responsibility as well as the risk to the Construction Contractor. Moreover the Construction has to 'wrap' (i.e guarantee) the performance of its own sub- contractors, and is taking extra risk in this respect. These extra risk are clearly likely to cause the construction Contractor to build more contingencies into the contract costing, and hence a higher contract price than a price if the work were done on a cost plus basis. Typically such extra cost of a construction contract is added up by 20% to the estimated cost of a contract which is not a turnkey, fixed price, date – certain basis, but the outturn cost of the latter kind of contract may easily increase by 20%. Hence it is assumed to be producing the same result.

Fixed price, date- certain construction contract are standard in most process-plant and infrastructure projects. Sponsors who want to adopt a different approach normally have to give lenders a project completion guarantee. Thus diluting the non-recourse nature of the transaction. Certain types of projects do not or cannot usually use such contracts- for example mining and oil and gas extraction project.

Where the project is being constructed using technology licensed by third party, which is commonly the case in refinery or petrochemical plant project. It should be noted that standard form of construction contract, such as those produced by the International Federation of Consulting Engineers (FIDIC) are generally not suitable for project finance, firstly because they tend to be too '**contractor friendly**' and secondly because there are some differences of structure compared to project finance requirement.

*Key aspects of Construction Contract From the project- finance point of view are:*

- Contract scope
- Definition of Project Completion
- Commencement of the works
- Contract price, payments, and variations
- Security
- Relief Events
- Construction supervision

- Liquidated damage and termination
- Owner's Risks ( Compensation Events)
- Suspension and termination by the Construction Contractor

### 19.4.1 SCOPE OF CONTRACT

The construction contract sets out the design, performance criteria and technical specification of the project, and thus it can be said to offer a 'fast-track' route for the construction of the concerned project, since the contract can be signed and construction can begin before all the details design work is completed. The project company is also given the right to object to the detailed designs as these are produced by the construction contractors.

The construction contractor is responsible for employing (and paying) its own sub-contractors or equipment suppliers, although the Project Company may have a right of prior approval over major subcontractors or equipment supplier, to ensure that appropriately qualified subcontractors or suppliers with relevant technology are being used.

Construction insurance clause is instructed to be normally excluded from the specified clauses of Construction contract price.

### 19.4.2 COMMENCEMENT OF THE WORKS

There may be a gap between the time the Construction Contract is signed and the point at which Financial Close has been reached, and usually the Construction Contractor does not begin work until the latter date, when there is assurance that the financing is available. The Construction Contract therefore often provides for a **Notice to Proceed (NTP)**. NTP is basically referred to a formal notice to begin the work, which can be issued by the Project Company at Financial Close. Here in order to calculate the required Project Completion date, contractor takes the date as a period of time after the NTP is issued, rather than a fixed date.

- Providing access to utilities needed for construction (such as electricity and water)
- Providing fuel or other materials required for testing the plant
- Work 'outside the fence', such as fuel and grid connections for a power station, or road or rail connection being built by the off-taker/Contracting Authority under the project Agreement, or by a third party.

These are generally known as Owner's Risks- and are in effect Compensation Events. As between the construction contractor and the Project Company.

### 19.4.3 RELIEF EVENTS

In the context of a construction contract, relief event is defined as an event which could not reasonably have been anticipated by and is outside the control of a prudent and experienced Construction Contractor, and which therefore excuses the Construction Contractor from liability for delay in completing the project.

Relief event under the construction contract will should, as far as possible, mirror those under the project Agreement.

### 19.4.4 PROJECT COMPLETION

The construction Contract sets out the points on the basis of which the project will be accepted by the project company as complete. Project Completion may take place in several stage:

1. **Mechanical Completion**, under an EPC contract, when the project is ready for start up and testing, including performance tests; these test would included confirmation that the project can meet the required performance and operating criteria.
2. **Substantial Completion**, when the project meets the basic requirements of the Construction Contract , at which point the project is handed over to the Project Company.
3. **Final Completion**, which is dependent on resolution of ‘punch list’ or ‘snagging’ items. Which are forming the part of agreed points of Construction Contract but do not prevent the project operating. the Lenders’ Engineer is usually involved in the process of certifying the completion of work.

### 19.4.5 LIQUIDATED DAMAGES AND TERMINATION

Liquidated Damages are fixed amount that both sides agree and are sufficient to cover the Project. Company’s financial losses resulting from late Project Completion or from the failure of Project Completion or failure of project performance as specified. If specific amounts are not agreed to in this way there would be lengthy disputes about the quantum of loss in each case, the uncertainty involved in this would not be acceptable to lenders, and the time spent in dispute could be financially disastrous for the Project Company. Liquidated Damages are not intended as a penalty, but rather is considered as a fair compensation for loss suffered.

Apart from the Liquidated Damages amounts, the Project Company cannot make claims against the Construction Contractor for loss of profits or extra, except on termination of the Construction Contract. Liquidated Damages are important for lenders, who tend to require higher levels of LDs than might be found in a construction contract that is not being project financed.

Liquidated Damages may also be needed to cover loss of income or penalties payable under the project Agreement. Liquidated Damages for delay in project Completion, unless caused by Owner’s Risk or Relief Events, are standard in most Construction Contracts.

Performance elay Liquidated Damages are appropriate where the project involves a process plant, or the performance of a system.

Overall Liquidated Damages Cap can be said to be an overall cap which is established for Liquidated Damages for all types, typically around 25-30% of the contract value for an EPC Contract, again a figure that is higher than that usually found in non-project financed construction Contracts.

Further there is also a provision of Environmental Guarantees. Where the Construction Contractor may also provide guarantees of the environmental effect of the project. If meeting

emission limits is a legal requirement, Liquidated Damages are usually not relevant- the standards have to be met or the Construction Contract cannot pass performance tests.

Bonus. The Construction Contractor may also be paid a bonus for completing the project ahead of schedule: this should divide the benefit of earlier revenue between the Project Company and Construction Contractor.

#### 19.4.6 TERMINATION BY THE PROJECT COMPANY

Liquidated Damages alone may not cover the Project Company against poor performance by the Construction Contractor, especially as these are limited in amount, the Project Company therefore also has the right to terminate the contract if the Construction Contractor fails to complete the project by an agreed long stop date. In this context exhaustion of the LD cap(s), or failure to meet environmental requirement would be a failure to complete the project. In such cases, the project company has been given the right to terminate the specified contract and to the company's another contractor to finish the project. Alternatively the project Company may require the Construction Contractor to restore the site to its original condition, and repay all sums the project company has paid under the construction contract. There may also have the provision of Position of the Offtaker/ Contracting Authority, as an offtaker/Contracting Authority may wish to charge LDs to project Company.

#### 19.4.7 SECURITY

The construction contractor provides various types of security to the project company for the fulfillment of the obligations under the construction contract (generally known as 'bonding'). These types of security are discussed below as under:

- (i) **Retainage:** a percentage of each contract payment is retained by the project company until satisfactory final Project Completion. This ensures that the construction contractor will deal expeditiously with all the outstanding smaller item of the work at the end of contract. Alternatively, the construction contractor may be paid this 'retainage' and instead provide a retention bond for the same amount.
- (ii) **Performance Bond:** the construction contractor is usually required to provide a bond for around 10-15% of contract value as further security to cover the obligation to pay LDs.
- (iii) **Advance-Payment Guarantee:** if any payments have made in advance of the work being done the construction contractor provides the guarantee for an advance payment, under which the amounts concerned will be repaid *pro rata* if the contract is terminated before the work is complete.
- (iv) **Warranties:** After Project Completion, the construction Contract usually pronging for warranties.

These obligation should be secured by bank letter of credit or insurance company bonds that enable the project company to make an immediate drawing of cash rather than having to go through a dispute procedure or legal action before being paid anything. If this is not the cash

the project Company may face a cash crisis if the event being covered by the security arise and payment cannot be obtained immediately.

### **19.4.8 SUSPENSION AND TERMINATION BY THE CONSTRUCTION CONTRACTOR**

The construction contractor has the right to terminate the contract and to obtain the compensation for any losses, or in any other fundamental way under the contract.

As an interim measure, the construction contractor is generally required to firstly suspended the work for a period of time before he final decides to terminate the contract.

For example –In case there is a default in the payment of project company, the construction contractor may suspend work 30 days after the payment was due, but not terminate the construction contract for another three months. This suspension period is normally extended further under the term of Direct Agreement with the lenders. If work resumes because the Project Company has cured the default, the suspension period is added on to the end date for project completion, and further the Project Company may also have to pay costs incurred in keeping the project in suspension.

Fixed fees tend to apply for a maintenance Contractor looking after a building, road or similar civil works, fixed fees normally indexed CPI or an industry price index. Thus maintenance Contractor is taking the long- term risk of unpredictable maintenance and lifecycle coast away from the Project Company.



#### ***Check Your Progress- A***

**Q1. What are the Key aspects of Construction Contract From the project- finance point of view?**

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**Q2. Define the term ‘Notice to Proceed (NTP)’.**

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**Q3. Discuss the scope of construction contract.**

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## **19.5 O & M/MAINTENANCE CONTRACT**

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Operation and Maintenance contracts are concerned with all those types of contracts which governs the PPP(Public Private Partnership) agreements and types.

O &M contracts may offer owners various types of options relating to the term of contract such as, in process plant project the O&M contractor may be paid a bonus if the project operates as better than initially agreed level, and conversely may suffer penalties (i.e. LDs) if it operates below agreed levels. A bonus is calculated to share the extra revenue generated from better operations arose between Project Company and O&M Contractor. Bonuses generally do not apply to Maintenance or building- Services Contract.

Penalties which are payable to Project Company in O&M/Maintenance Contracts are not really limited to the equivalent of one or two year's fees. Exceptions from penalties, including relief against termination, will normally mirror those in the Project Agreement.

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## **19.6 BUILDING- SERVICES CONTRACT**

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A Building Services Contract applies to Accommodation Project, primarily in the PPP sector, and covers services such as cleaning, mail, laundry, catering, waste, parking, reception and security, telephone, etc. This Sub Contract may be combined with the Maintenance Contract so that all these services can be specified in the concerned contract.

The Sub-Contract may be subject to benchmarking or market testing at regular intervals. Performance will be measured against the KPIs in the Project Agreement and again LDs are usually limited to around two years' fee.

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## **19.7 INSURANCE**

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The broker also plays an important role in communicating information about the Project to the insurance company. This is important because in some jurisdictions insurance is an *uberrimce fidei* (of the utmost good faith) contract. If any material information is not disclosed to the insurer there is no obligation to pay under the mentioned policy. The broker must therefore work with the sponsors and the project company to ensure that it does not happen.

Broker is often paid a percentage of the insurance premiums, but this is obviously not an incentive to keep premiums down, and it is preferable to negotiate a fixed fee for their work.

The insurance is arranged in two phases: first the insurance covering the whole of the construction phase of the project, and second, annual renewal of insurance when the project is in operation. It should be arranged that the operating phase insurance cannot be arranged or their premiums are fixed in advance.

### 19.7.1 TYPES OF INSURANCE

There are seven most common forms of insurance that may be used for construction contracts, these types of insurances are discussed hereunder:

1. **All risks insurance** – This type of insurance is made to insure against all the physical damage that may happen to the works (usually materials on site). All the risk insurance usually covers the full reinstatement value plus a markup for any ancillary costs that incurs in a work (like consultancy and professional fees).

Contractors generally have a “global” or all risks insurance policies which covers all its projects and is generally more cost effective for all the contractors to maintain the insurance. Once this insurance is taken over, the risk that may arise in the works then passes to the employer, who further needs to ensure that the works are adequately insured or not.

Although the defects are generally excluded from the present policy of all risks insurance but if one wants, can purchase the wording that will provide the cover for all the damages that a defect causes or may cause to the other parts of work. In order to make this insurance to be meaningful, the different components of the works must be clearly and carefully presented. This kind of insurance is only made available if the works to be performed are being undertaken in accordance with the well established construction techniques.

2. **Professional indemnity insurance** – This insurance insures the contractors regarding their design responsibility which will relate itself to the liability that may arise out of the professional negligence and it will respond in following situations: for example, If designs are not complying with the provided requirements of the underlying construction contract (although it is general to exclude cover for “fitness for purpose” warranties, for professional indemnity insurance).

Professional indemnity insurance is basically performed on “a claim made basis”, rather than waiting for the event when the breach of professional duty actually takes place. In other words, the professional indemnity insurance is required to be there until any limitation period ends like the time period in the UAE, is 10 years. The amount of professional indemnity insurance cover may vary on a case to case basis depending on the complexity of the design works which is in question.

3. **Professional indemnity insurance** is another important insurance policy, which is generally undertaken by the design consultants, such as architects and engineers. This type of insurance are required for them to have in place in order to have the professional indemnity.

4. **Public liability insurance** – This type of insurance covers the liability that arises to a contractor out of the death or personal injury that may happen to the third parties. It excludes the contractor's employees and other from such insurance, who all are or should be covered by the worker's compensation insurance. Apart from death and injury, it also includes the damages that have occurred to the property belonging to third parties excluding the works which is been covered by the all risks insurance policy, prior to the works being taken over.
5. **Workers' compensation insurance** - This type of insurance is made to insure the contractors against the liability that may arise for the death or personal injury that may have occur to its employees (usually on site) when performing their responsibility and duty for the work.  
If due to any reason an employee of a contractor causes the death of a third party, the Sharia law may apply as it applies in many Middle Eastern countries for the "blood money" to be claimed by the heirs of the victim's from that particular individual who has caused the fatality. The level of compensation in UAE, is currently set at AED 200,000 per make. And thus, the contractors sometimes purchase such additional insurance against this kind of liability.
6. **Decennial liability insurance** – Under Articles 880 to 883 of the UAE Civil Code a regulation is made, according to which a contractor and the supervising architect are jointly liable for 10 years i.e. from the date the works are taken over, to the employer for the defects that may threaten the safety of the building (a total or partial collapse). This kind of liability cannot be contractually excluded and so the contractors generally take out insurance against this liability. Such kind of decennial liability regimes usually applies in most of the other Middle Eastern jurisdictions.
7. **Delay in start-up insurance (DSU)** - Under this insurance policy, the insurance is provided basically for the delay that may have occur in completing the contract by the given dat. Hereunder, unless the contractor is entitled to relief under contract, the contractors will be customarily required to pay the liquidated damages to the employer if the work performed are not taken over by the completion date or depending on the nature of the work required to be performed, the result fails to satisfy the specified output criteria.

### 19.7.2 KEY PROVISIONS UNDER INSURANCE CONTRACTS

Apart from the basic requirements to take out and maintain the insurance policies, there are other important ancillary issues too, which includes:

1. **Joint names** - Certain insurance policies, especially those which are concerned with public liability insurance, are undertaken in the joint names of employer, contractor and as well as in the name of funder, so that the employer is fully insured against all the liability that may have incurred by the reason of a breach of contract by the contractor. The co-insured parties should also obtain the copies of the policy so that they get aware that they are insured and also get to know what they are exactly covered for.

Hereunder the party whose name is there in an insurance policy, can make the claims and it also provides for insurers to be required to waive their rights of subrogation against the co-insured parties. In other words, the insurer here, agrees to not to seek to recover against the employer even if the insurer is paid out on account of the actions of the employer.

It is important to note that where two or more parties are insured under the same policy the policy provides that the no act or omission of a co-insured party will vitiate the policy or otherwise prejudice the cover of the other co-insured parties.

2. **Cross liability** – This clause is general for all those contracts that are in joint names. The cross liability clause means that here each party will be insured in its own right as if in case of a separate policy and, as such, the policy will also respond to the liability that may incurred by one of the co-insured party to another co-insured party.
3. **Interest noted on a policy** – There is a difference between the insurance between the insurance which is being taken out in joint names and where a party's interest being simply noted on a policy. Although the party has the right to share in insurance proceeds where there is only a name written on the policy, but here the party does not have any direct right to claim under the policy. Further, here the insurer will generally not waive off its right of subrogation against the party whose interest is noted on the policy.

Per occurrence or in aggregate - It is important to check if the insurance cover is actually provided on per occurrence or on an aggregate basis. It is advantageous for the employer to have cover on a per occurrence basis as, if insurance is provided on an aggregate basis, then a previous claim could severely impact on the amount of available insurance. It also mean and makes relevance if the insurance is not project specific i.e. a claim made from one project could mean that there is no cover available for any other projects.

4. **Deductibles** – It is the responsibility of the employer's to assess carefully, the level of the deductible under an insurance policy so as to ensure that the deductible is reasonable and is actually not prohibitively high. As the excessive deductibles can lead towards a risk of being effectively uninsured.
5. **Exclusions** – Insurance policies are generally subject to the exclusions which may restrict the amount of available cover. Therefore, it is important for the employers and the contractors to review the extent of cover in order to assess the suitability of a policy in the light of risks which are obvious to occur under the contract.
6. **Lender's interests** – As a part of security package, a lender may require the borrower's rights as provided in the assignment under insurance policies to be named as the loss payee of the insurance proceeds. Apart from this, the lenders may also prefer to use insurance proceeds to pay off the loan instead of reestablishing the project in case the project is destroyed or damaged badly. In case the lender requires this ability to be included, he should take care to accommodate his right under the insurance policy.

7. **Identity of insurers** – Employers generally imposes the minimum requirements regarding the creditworthiness of insurers so as to reduce the risk of insurers in case of defaulting on their obligations towards payment.
8. **Caps on liability** – There is no caps at the amount of insurance that the contractor is required to have for the risk that may arise out of the breach of contract or negligence of contract.

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## 19.8 SITE LEASE AND OTHER USAGE RIGHTS

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In project where there is a public-sector Offtaker, or a Contracting Authority, this party often provides the site for the project, especially where a Reverting Asset is involved. The Project Company is generally given the right to use the provided site for the purpose of the completion of project till the term of Project Agreement sustains.

It is required to be ensured first by the Offtaker/Contracting Authority that there exists no as such incentive for the company i.e. the project company to separate the lease from the project, and then only they should sell the lease without completing the project.

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## 19.9 PERMITS AND OTHERS RIGHTS

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The Permits and others rights that are required for the purpose of construction and the operation of project are does not considered as separate contracts, but obtaining or providing for these is usually both a key condition which is precedent to the contract of project effectiveness and to the Financial close.

Permit is generally divided into two main categories viz. (i) those required for construction and operation of the project, including rights of way or easements and agreements to use common facilities with another party and (ii) In some countries, permits may be required for investment in and financing of the Project Company.

### 19.9.1 PROJECT PERMITS

Permits vary greatly from country to country and from project to project. They may be granted by central government departments or regional or local authorities. If there is a Project Agreement with a public- sector Offtaker, or with a Contracting Authority, this may automatically grant the project some of the required Permits, or it may give assurance that the government will provide support in obtaining them. Major project are likely to require a lot of permits, and failure to obtain Permits in good time can seriously affect progress. The Sponsors and the Project Company need to ensure that their organization includes people dealing with Permits, in close liaison with the legal advisors.

1. **Construction Permits:** A wide variety of specific Permits for construction may be required. Responsibility for obtaining such Permit should generally lie with the Construction contractor, who should be experienced in this area, and should take the risk of delays caused by Permits not being obtained in time.

2. **Investment Permits:** Permits may be required for foreign (including the Sponsors) investing in the Project Company and remitting dividends or other payments by Project Company to investors overseas.
3. **Tax Exemptions:** Tax exemptions may also be given (e.g. exempting dividends and interest paid to overseas investors, or interest paid to lenders, from withholding tax).
4. **Exchange Controls:** countries with exchange – control system restrict the ability of companies to undertake foreign-currency exchange and payment transactions. Exchange controls may prevent the project Company From:
  1. *Holding bank accounts in foreign;*
  2. *Holding bank accounts outside the country;*
  3. *Borrowing foreign currency or amending the term of foreign currency loans;*
  4. *Making payments to suppliers outside the country.*

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## 19.10 PARENT – COMPANY GUARANTEES

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If, as is Commonly the case, a sub – contractor is a subsidiary of a much larger company. Lenders may required that the former’s obligations in its Sub-Contract are guaranteed by its parent’s company. For example, if the O& M/maintenance is being dealt with by an SPV set up for the purposes of this contract with no other source of funds, the transfer of risk such as excess maintenance costs from the project Company guarantee(‘PCG’) of its LD or other obligations.



### *Check Your Progress- B*

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**Q1. Examine the points which can be considered as important or is the basis for the acceptance of project by the project company to be considered it as complete.**

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**Q2. What are the various types of Insurance? Explain**

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**Q3. Explain the types of Insurance?**  
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## 19.11 SUMMARY

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Sub-Contracts is generally defined to include all those direct Agreements, which link the leaders (and the Contracting Authority/Offtaker) to the project Contracts. Apart from the project Agreements as already been discussed in the last chapter there are some of the sub contracts and other related Agreements as well which includes Construction contract, O & M/Maintenance Contract, Building Services Contract, Site Lease, Insurance, Permits and other rights- these are not exactly the contract as such but are an important framework for all the project Contracts. Parent company guarantees for such sub contracts.

The construction contract in a project financed project is usually in the form of a contract to design/engineer the project. Procure or manufacture of any plant or equipment requires this kind of contract to be formed. Thus, to construct the project, company creates a ‘turnkey’ responsibility to deliver a complete project fully equipped and ready for operation – i.e. a D& B or EPC Contract. The construction contract sets out the design, technical specification, and performance criteria for the project, and may offer a ‘fast-track’ route to construction of the project, since the contract can be signed and construction can begin before all the details design work is complete.

O&M contracts i.e. Operation and Maintenance Contracts are basically those types of contracts which governs a PPP(Public Private Partnership) type of agreement. O &M contracts may offer to the owners various types of options relating to the term of contract such as, in process plant project the O&M contractor may be paid a bonus if the project operates as better than initially agreed level, and conversely may suffer penalties (i.e. LDs) if it operates below agreed levels.

A Building Services Contract applies to Accommodation Project, primarily in the PPP sector, and covers services such as cleaning, mail, laundry, catering, waste, parking, reception and security, telephone, etc. This Sub Contract may be combined with the Maintenance Contract so that all these services Specifications in the contract.

The broker also plays an important role in communicating information about the Project to the insurance company. This is important because in some jurisdictions insurance is an *uberrimce fidei* (of the utmost good faith) contract: if any material information is not disclosed to the insurer there is no obligation to pay under the policy. The broker must therefore work with the sponsors and Project Company to ensure that it does not happen.

In project where there is a public-sector Offtaker, or a Contracting Authority, this party often provides the site for the project, especially where a Reverting Asset is involved. The Project Company is generally given the right to use the provided site for the purpose of the completion of project till the term of Project Agreement sustains.

The Permits and others rights that are required for the purpose of construction and the operation of project are does not considered as separate contracts, but obtaining or providing for these is usually both a key condition which is precedent to the contract of project effectiveness and to the Financial close.

If a sub – contractor is a subsidiary of a much larger company. Lenders may required that the former’s obligations in its Sub-Contract are guaranteed by its parent’s company.

All these sub contracts and the related sub contracts as discussed above needs to be taken care off along with their specific provisions as discussed in detail in the present unit.




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## 19.12 GLOSSARY

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**Sub-Contracts:** It refers to all those direct Agreements, which link the leaders (and the Contracting Authority/Offtaker) to the project Contracts.

**Construction Contract :** In project finance, it is usually in the form of a contract to design/engineer the project. Procure or manufacture of any plant or equipment requires this kind of contract to be formed.

**Notice to Proceed (NTP):** It is a formal notice to begin the work Under construction contract which can be issued by the Project Company at Financial Close.

**Relief Events:** In the context of a construction contract, relief event is defined as an event which could not reasonably have been anticipated by and is outside the control of a prudent and experienced Construction Contractor , and which therefore excuses the Construction Contractor from liability for delay in completing the project.

**O&M Contract:** Operation and Maintenance contracts are concerned with all those types of contracts which governs the PPP(Public Private Partnership) agreements and types.

**Building Services Contract :** A Building Services Contract applies to Accommodation Project, primarily in the PPP sector, and covers services such as

cleaning, mail, laundry, catering, waste, parking, reception and security, telephone, etc.



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- Legal Issues in Project Finance- Edward D. Einowski
- Legal Issues in Project Finance and Acquisition Finance - Philip K. Barton
- Legal Issues in Project Finance \_ Stoel Rives



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## 19.14 SUGGESTED READINGS

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1. Andrew Fight - Introduction to project finance
2. E. R. Yescombe - Principles of Project Finance
3. Graham D. Vinter, Gareth Price - Project finance: a legal guide
4. Project Finance for Public-Private Partnership (PPP) projects
5. Scott L. Hoffman - The Law and Business of International Project Finance  
3rd edition
6. Stefano Gatti - Project finance in theory and practice



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## 19.15 TERMINAL QUESTIONS

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- Q1. Discuss the key provisions of insurance contracts.
- Q2. What is meant by construction contract? Discuss the termination and suspension provisions by construction contractor.
- Q3. What are project permits? Discuss in detail.
- Q4. Discuss the related agreements of sub contracts.

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# UNIT 20 PROJECT FINANCE LOAN DOCUMENTATION

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- 20.1 Introduction**
- 20.2 Objectives**
- 20.3 Role of documentation in project financing**
- 20.4 Loan agreements**
- 20.5 Basic Terms of a Loan Agreement**
- 20.6 Project Loan Agreements**
- 20.7 Lenders' Term Sheet**
- 20.8 Lenders with Different Security**
- 20.9 Summary**
- 20.10 Glossary**
- 20.11 Reference/ Bibliography**
- 20.12 Suggested Readings**
- 20.13 Terminal & Model Questions**

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## 20.1 INTRODUCTION

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As discussed in the previous unit about project agreements as an important topic to understand for project finance, loan documentation sets the additional clauses to be included in the agreement. The loan Documentation is considered as a part and parcel of project finance which deals with the additional controls and others requirements that lenders' may have and can further impose on such project companies. The present unit deals with the term loan documentation so as to give a deep understanding to the learners, all about the loan agreements. The end result of project finance is assumed to be loan agreement to which the lenders and project companies are the parties, and ancillary security documentation. In terms of drafting of the loan documentation, a term is commonly used i.e. 'boilerplate' term. The term 'boilerplate' refers to those documents which vary little from one loan agreement to another. These documents are often based on the Loan Market Association (LMA) Standard from loan documentation. The LMA was formed in 1996, with the aim of standardizing the

bank loan documentation as far as possible, so that loan can be more easily syndicated or otherwise transferred in the market.

As far as LMA is concerned, it has not produced any standard form project finance loan documents, but having said this many of the standard corporate loan clauses are further found in a project finance loan and for the reason the LMA documentation is being considered as a useful starting point for project finance loans since it sets out generally agreed market drafting, so avoiding the need to negotiate 'boilerplate' clauses in a loan agreement from first principles.

The next section of the unit deals with the importance of loan documentation in project finance. As already discussed in the previous unit about the importance of project agreements in the eyes of law under project financing, the loan documentation plays a vital role in project financing by making it stronger and legally abided by the persons who are the parties to that particular project agreement formed.

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## 20.2 OBJECTIVES

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After reading this unit you will be able to understand;

- Role of documentation in project financing
- Loan agreements
- Basic Terms of a Loan Agreement
- Project Loan Agreements

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## 20.3 ROLE OF DOCUMENTATION IN PROJECT FINANCING

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The fundamentals of project financing are mainly concerned with the allocation of project and other risks which exist amongst the various parties who all are having an interest in that project. The way in which this risk allocation is implemented is, essentially, through the complex matrix of contractual relations which is formed between the various project parties. These complex matrixes are also enshrined in the documentation entered into between them. There is no as such general body of law (not even in England or elsewhere) which may be considered as the governing and directing body. As there are complex relations and risks involved among the parties to contract under project financing, there is a need to have strong documentation for the purpose. But unfortunately, there is no general body to dictate how projects must be structured or how the risks should be shared amongst the project parties. It is assumed instead that each project must fit within the legal and regulatory framework of the particular place, in the various jurisdictions in which it is being undertaken or implemented. Accordingly, the contracts between the various project parties can be assumed to have a huge significance among the parties. And it is only these documents that will make it into instruments, which is evidence in the eyes of law, and hence by which many of the project risks are shared amongst the project parties.

As will be apparent, there is no such thing till date which can be said to be a standard set of project documents. Each project will have its own set of documents which might be specially drafted for that particular project. In order to have clear understanding of it, below is a brief description of some of the key documents found in many project financing structures. These documents can conveniently be grouped as follows:

- Shareholder/sponsor arrangements
- Project and security Documents
- Finance or Loan documents
- Other Concerned documents

Loan agreements are basically the central document which is needed to be drafted carefully under project financing being loaning as an important ingredient of project financing. The next section gives a detail idea about the loan agreements.

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## 20.4 LOAN AGREEMENTS

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Loan agreements are the central documents in the package of agreements which are used to provide financial documentation in project finance.

As Project Companies are typically considered as the 'special purpose vehicles', the arrangers will require their sponsors of the project to stand behind the payment liabilities of the project company in the mandate letter. This should however not be extend to the arranging fee if it is intended that the fee will be funded out of the first drawing as presented under loan documentation.

### **Termination:**

In loan documentation, it is been represented that the arrangers will not typically receive any fee for the work they do in relation to the project unless the definitive finance documentation is signed, thus it is necessary for the arrangers to get it signed. Accordingly, any arbitrary right for the project company or the sponsors to terminate the mandate will be fiercely resisted by the arrangers. The first draft of a mandate letter thus will often exclude any right of the sponsors or the project company so as to terminate the mandate letter. However, on the other hand, a negotiated set of termination events in a mandate letter would usually cover the following things:

- (i) Failure to complete the finance documents by a long-stop date.
- (ii) An unacceptable market flex requirement.
- (iii) material breach conducted by the project company or the sponsors.
- (iv) Termination of the project; and
- (v) material breach by the arrangers which is likely to delay execution of the finance documents beyond a long-stop date;

Loan agreements thus not only consists of fee details and other loan arrangers documents and structures but also details the termination clauses of the loan agreements so that the

parties breaching the contract can get penalized in particular situations as pre-decided among the parties.



### *Check Your Progress- A*

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#### **Q1. What is meant by Loan Agreements?**

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#### **Q2. Discuss the role of documentation in Project Financing.**

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## **20.5 BASIC TERMS OF A LOAN AGREEMENT**

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There can be many provisions as set out under the loan agreement with particular nature. It may vary from situation to situation. A typical term (as opposed to "on-demand") loan agreements in the London bank markets (whether the lender was a single bank or a syndicate of banks and whether or not related to a project financing) would contain the provisions as discussed below:

**(a) General conditions:** There are various general conditions which are precedent and would have to be satisfied by the parties so as to avoid falling in the list of defaulters and getting penalized by the lender. Under project financing, there are precedent clauses to be satisfied or waived therefore any bank was obliged to lend any money. These would include the delivery of certified copies of the borrower's constitutional documents, or any relevant board and shareholder resolutions and of any key documents and the delivery of legal opinions

confirming, inter alia, that the loan agreement was within the power of borrowers and had been properly authorized. While no bank is obliged to lend until these conditions precedent have been satisfied or waived. It is usually the case that a group of the lenders (usually representing 67 per cent of the loan commitments) determine whether they should be satisfied or waived.

**(b) Conditions precedent to each drawdown:** In addition to the above general conditions discussed, it is assumed that at least two standard conditions would have to be satisfied on the date that any drawdown request or drawdown was made: that no default takes place or no such other event takes place which “with the giving of notice, lapse of time, determination of materiality or fulfillment of any other conditions”, would constitute an event of default (a "potential event of default.") that had occurred and was continuing on that date and, secondly, that no representation or warranty made or to be made or repeated on that date under the loan agreement was incorrect. Although the second condition as discussed above is normally found in virtually every term loan agreement, it is probably diagnosed that it happens because of the reason that the breach of a representation is an event of default.

**(c) Availability period:** The term availability period denotes to the maximum time period allowed to the lenders to advance loans to particular party. Loan agreements will always contain a limited period during which the lenders are (subject to the satisfaction of conditions precedent) obliged to advance loans. This period is known is also regarded to as of the availability period.

It is obligated to the borrower to pay the concerned commitment fee during the term of availability period to the lenders as pre informed or decided between them. This fee becomes payable from the time of signature of the loan agreement and is supposed to be paid until expiry of the availability period. Even though the lenders are not obliged for the advance loans, then too it is payable because of the reason that the previous conditions are not satisfied.

**(d) Drawdown mechanics:** Drawdown mechanics is generally the practice of London market. Under this practice, it is given that the borrower cannot request a loan denominated in a currency other than sterling (a "Eurocurrency") any later than two business days prior to the proposed date of drawdown. By contrast, if the borrower wishes to draw down in sterling, he can theoretically request the loan up to 11.00 a.m. (London time) on the proposed date of drawdown itself. (This is because the banks may have to go into the London interbank market themselves to borrow any Eurocurrency to on-lend to the borrower and the market will only deliver the Eurocurrency two business days later. Apart from this, in contradiction, sterling is (or is deemed to be) readily available to all banks in the London market). The above notice periods for drawdown as given under the clauses of London market practice, may be longer if the loan agreement is a syndicated one i.e. loan given by various banks (for purely logistical reasons the agent bank will need time to contact each member of the syndicate).

**(e) An interest clause:** Interest on sterling loans are sometimes charged at a margin over base rate. The margin set and its size will depend on the riskiness of the loan as in the eyes of bank. Apart from this, when the interest is charged on the basis of base rate, it is required that

the loan agreement should stipulate clearly about this that which bank's base rate is being used (particularly if the loan agreement is syndicated). There may be a London base rate for a very limited number of other currencies (in particular US dollars when lent by the London branches of US banks).

However, interest on sterling loans under LMA market may also, and interest on Eurocurrency loans made from the London interbank market usually will be charged at a margin over LIBOR (London Interbank Offered Rate). The term LIBOR is usually defined under the financial market, it is generally defined as that rate at which banks can borrow money from the other banks at the London interbank market. Whenever the interest is charged with reference to the LIBOR it represents that each bank itself borrows the money to lend it to the borrower (so-called "match-funding"). A loan agreement may be drafted in the structured way as given by LMA, but many banks still do not actually match-fund on a loan-by-loan basis but actively manage their funding exposure and seek to balance their borrowings with their lending commitments across the board.

In London interbank market, banks will usually only obtain funds in short maturities. Under this, one year is generally the longest maturity that they will or can obtain for the purpose of funding their commitments under a term loan agreement. Here basically, the markets are quoted with rates for a range of shorter maturities i.e. one, two, three and six months are the most common.

The short-term nature of the interbank funding that is available means that a bank will usually have to borrow funds from the interbank market on a number of occasions during the specified course of a term loan. The borrower usually is able to select the maturity period of each borrowing his banks can make; he basically does this by specifying each "interest period" that is to apply to his loans. Normally, the interest is paid at the end of each interest period and thus, this enables the banks in turn to pay the interest then due on their own interbank borrowings. The parties repay the principal of each interbank borrowing with the proceeds of another interbank borrowing (save to the extent the borrower actually makes a repayment). This process of repaying one interbank borrowing with the proceeds of another interbank borrowing is called "rolling-over" of the loan.

If the borrower decides to repay or prepays principal otherwise than on the last day of an interest period in a matching amount, the banks at that time may incur losses in that, whilst they are themselves still incurring interest on their matched borrowing from the interbank market, they are no longer receiving interest from the borrower with which to meet the same. These losses are called "breakage costs" of banks. Whether or not banks actually incur them will be determined by whether or not they can redeploy the funds repaid or prepaid in the interbank market and achieve a return at least equal to the interest they have to pay. The borrower has to indemnify banks against any breakage costs.

**(f) A repayment clause:** The repayment clause under loan documentation provides that a term loan may be repayable in lump sum (a "bullet repayment") or in installments of fixed or variable amounts.

**(g) Margin protection clauses:** Ignoring income from arrangement fees and the like, banks under project financing make their profit out of the margin money which they have lent and further charged as the part of the interest rate. Banks generally express the interest rate as "one per cent over LIBOR" i.e. one per cent is representing the margin and LIBOR is the basic cost of funds, i.e. the base rate at what they must pay the person in the interbank market who provided them with the matching funds. If a bank suffers an unexpected cost connected with making of the loan, this will obviously erode its margin and hence it has to pay the LIBOR element of any interest it receives from the borrower to its match-funder in the market come what may.

There are basically four main types of margin protection clause which are generally included in loan agreements. The inclusion of these clauses is thus said to be invariable market practice. A borrower may not consider them fair, but they seek to address apportionment of risk as between the borrower and the bank, not fairness.

There are four types of clauses which include:

- (i) **The gross-up clause:** Under this clause, it has been provided that, if a deduction has to be made by law from any payment the borrower makes to the bank (and the main instance of this would be a withholding tax on an interest payment), then the borrower has to "gross up" the payment so that the bank receives, after the relevant deduction, the same amount that it would have received had the deduction not been made. This clause enables the bank to pay, out of moneys received from the borrower, the precise amount due to his match-funder on the interest payment (or rollover) date.

The bank will usually eventually get a credit under a double taxation treaty for the tax withheld and this leads to an understandable cry of foul from the borrower, not only has he had to pay extra interest, but the bank has received a windfall. The borrower's concerns are met by the inclusion of a so-called "tax credit reimbursement" clause (in fairly weak terms) in the loan agreement.

- (ii) **Mandatory Costs:** This clause provides that the amount of interest rate payable by the borrower will further be increased by an amount which is related to the assumed cost that a bank has for complying with relevant regulatory requirements.
- (iii) **The increased costs clause:** The third clause reflects the possibility that a change in law or a change in the practice or regulation by the bank and its regulatory authorities may make it more expensive for a bank to lend money (either generally or to a particular borrower). If this occurs, the clause requires the borrower to compensate the bank for the increased cost or reduction in return.
- (iv) **The market disruption clause:** This clause can best be explained with reference to its historical origins. The Eurocurrency market has grown up in London in the year 1960's and 1970's as a result of the Arab states which were depositing enormous amounts of the dollar revenues they earned from the sale of oil with London banks. The deposits were at that time generally made with London banks

because they were able to offer higher rates of interest than their US counterparts. At that time, there was a certain amount of nervousness that the Eurocurrency market might only be an evanescent phenomenon and, as a result, the first Eurodollar term loan agreements included provisions stating that what was to happen if the lenders suddenly became unable to obtain dollar deposits on the London interbank market for match-funding purposes because the Eurodollar market simply disappeared overnight (i.e. the dollars fled elsewhere). The solution adopted at that time was that, in these circumstances, the banks would fund their participations from whatever other reasonable sources they chose (for example, from the US domestic market or from the Paris interbank market) and the borrower would be obliged to pay interest at the normal margin over the banks' cost of funds from these other sources.

The market disruption clause in today's era is pretty much the same and it is important to appreciate (as is obvious once the origin of the clause is known) that it should really only deal with disruption to the interbank market generally and not with problems affecting individual banks. The history behind the clause has become so lost in the mists of time, however, that it is now even found in London-based sterling loans.

**(h) The illegality clause:** The illegality clause states that, if in any case it becomes illegal for a bank to continue to make loans or otherwise participate in the loan agreement, the borrower must prepay the loans made by that bank and the bank's obligations will be terminated. This provision was introduced as a protection for lenders against the application of "trading with the enemy" legislation and embargoes during the life of a loan. It is rarely invoked in practice.

**(i) Representations and warranties:** The representations and warranties as presented in a loan agreement are different in practice from those representations and warranties that are used in a commercial contract viz. an agreement for sale and purchase of a business. Although in theories, the banks will be able to sue for the damages that took place because of breach of a representation and warranty in a loan agreement, they are not in the main interest in a damages claim. If the things in representation and warranties go wrong, they simply want the right not to advance any further money and to get their money back. Accordingly, as noted above, the continued accuracy of the few of the warranties and representations in a project finance credit agreement is typically a condition precedent to each drawdown. The best way is thus to give the lenders the ability to get their money back by returning them a debt (and not a damages) claim. This is adopted in practice by making it as an event of default conducting the breach of warranty and representation under the loan agreement. The warranties and representations are often made "evergreen", i.e. they repeat various times during the life of the concerned loan (for example, on drawdown and interest payment dates) with reference to the facts and circumstances then subsisting and in this way they are made to afford the banks a degree of continuing protection.

**(j) Undertakings:** Undertakings are most common in loan agreements. A loan agreement will contain various undertakings from the borrower, ranging from the purely informative (an

undertaking to deliver annual accounts) to the financially protective (the negative pledge, i.e. an undertaking not to create security). The basic key undertakings in a corporate (as opposed to a project) credit agreement includes the negative pledge, an undertaking not to dispose of assets (subject to certain exceptions) and an undertaking on the part of the borrower not to change its business. The purpose of above these three undertakings is to keep the borrower the way he was when the bank decided he was an acceptable credit risk and entered into the credit agreement.

**(k) Events of Default:** This clause represents that there is a problem with the term loan specially for a lender as if the borrower were to go into liquidation prior to the final maturity date, the lender, if he were to rely on the repayment clause alone, would only be able to make a contingent proof in the liquidation (as the principal of his loan would not yet be due for repayment). This is, not surprisingly, considered totally unacceptable and all term loan agreements should mandatorily contain a clause which should deal with the such events of default and acceleration so that it can easily overcome the problem. If in case there is any event of default, the bank then at such situation can "accelerate" the loans, i.e. it can immediately declare them to be due and payable. (A bank also has other remedies such as it can cancel its commitment to lend entirely and (sometimes) it can by notice to the borrower turn the term loan into a demand loan, if there is an event of default.)

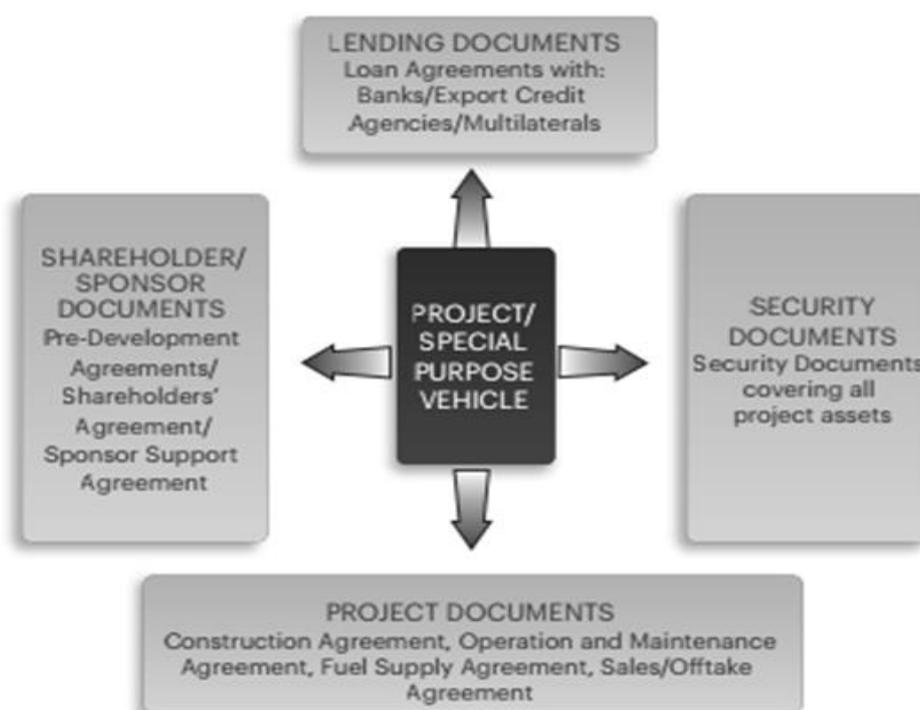
Events of default in a typical loan agreement will include non-payment, breach of covenant, insolvency, breach of representation and warranty and "cross-default". Cross-default is defined as the default that has occurred under any other borrowings or financial obligations of the borrower. A cross-default is usually meant to be an indication that the borrower is in serious financial difficulties. It is at its most important in an unsecured loan where a lender will need the ability to accelerate his (unsecured) loan and then simultaneously any other lenders should also be able to do the same. And if in case, he cannot do this, then the other lenders who will be able to accelerate the same, before him obtain final judgment before him and then execute against the borrower's assets before him, effectively putting him in a subordinate position even though they too might have been unsecured.

There are, of course, typically various other clauses which can be included in a loan agreement (such as a clause dealing with how payments are to be made, an indemnity against stamp duties and clauses dealing with environmental compliance), but the above clauses as discussed above are the most important clauses for our purposes. Since the publication by the LMA of a template syndicated loan agreement for the purpose of investment grade borrowers, the time taken agreeing these largely mechanical and standard provisions of credit agreements has been greatly reduced. This unit intends to give an idea about the loan documentation but does not intent to explain how a borrower would normally seek to negotiate the above clauses (for example, by introducing concepts of materiality into the warranties and representations and by seeking a number of days' grace before an event of default for non-payment can occur).

## 20.6 PROJECT LOAN AGREEMENTS

In most projects this will be a syndicated loan agreement entered into between the borrower, the project lenders and the facility agent. The project loan documentation generally regulates the terms and conditions upon which the project loans may be drawn down and what items of project expenditure the loans may be used for. The agreement structured generally will contain the usual provisions relating to the covenants, representations and the events of default found in other syndicated loan agreements but expanded to cover the project, project documents and related matters. In terms of Euro-currency, it has been seen that the provisions relating to the calculation and payment of interest will be similar for standard Euro-currency, loans except that in most projects interest will be capitalized during the construction period or until project revenues come on stream. The figure below gives a representation of project financing documentation which is required for the purpose of project financing, denoting that it can work out as a special purpose vehicle for advancing loans.

### Project Financing Documentation



**Fig 20.1 Project Financing Documentation**

Repayment terms under loans will vary from project to project and will often be tied to the receipt of project cash flows and/or the dedication of a minimum percentage of the project's cash flow towards debt service. The agreement will normally provide for all project cash flows to flow through one of a number of project accounts maintained by the agent (or a security trustee or account bank) and charged to the project lenders. There will be detailed

mechanics relating to the calculation of project cover ratios and the preparation of banking cases and forecasting information with respect to the project. There will also be provision for the appointment of consultants, technical experts, and advisers by the project lenders. The balance of the agreement will contain boilerplate provisions customarily found in Euro-currency loan documentation adapted, as appropriate, for a project financing.

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## 20.7 LENDERS' TERM SHEET

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The lenders' term sheet sets out a summary of main commercial and financial term and structures which the lender are offering, and in due course also serves as a template for the financial documentation.

The debt is usually available for drawing for period slightly longer than the construction phase of the project. The drawing procedure for the debt is linked to that for the equity.



### *Check Your Progress- A*

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**Q1. Discuss the margin protection clause of Loan Agreements?**

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**Q2. Explain the lenders' term sheet?**

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**Q3. List out the basic terms of loan agreements?**

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## 20.8 LENDERS WITH DIFFERENT SECURITY

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The lenders usually share the same security over the project, which is known as 'Cross – Collateralization'.

However, if one lender group has, for example, a Sponsor guarantee that another group has not, then it is evident that the former cannot be inhibited by the latter from enforcing their security after a Project Company default, and vice versa.

### LESSORS

If the project Company finances part of the project costs through leasing, the equipment financed is legally owned by the lessor (leasing company), who are likely to be reluctant to share the value of this security pari-passu with other lenders. But any other lender will not wish the lessor to deal separately with key components of the project. Therefore, an agreement will be needed to coordinate on foreclosure and probably to share the benefits of sale.

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## 20.9 SUMMARY

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The loan Documentation is an important part of project finance which deals with the lenders' additional controls and others requirements to be imposed on project companies. The present unit deals with the loan documentation including loan agreements referring to the basic terms involved in loan documentation needs to be followed.

There is no such thing as a standard set of project documents. Each project will have its own set of documents specially crafted for that particular project. Set out below is a brief description of some of the key documents found in many project financing structures. These documents can conveniently be grouped as Shareholder/sponsor arrangements, Project and security, Documents, Finance or Loan documents, Other Concerned documents. Loan agreements are the central documents in the package of agreements used to provide financial documentation in project finance.

As Project Companies are typically considered as the 'special purpose vehicles', the arrangers will require their sponsors of the project to stand behind the payment liabilities of the project company in the mandate letter. A typical term (as opposed to "on-demand") loan agreements in the London bank markets would contain the following provisions: **General conditions, Conditions precedent to each drawdown, Drawdown mechanics, Availability period, An interest clause, Margin protection clauses, A repayment clause, representations and warranties, The illegality clause, undertakings and Events of Default.** There are, of course, typically various other clauses in a loan agreement (such as a clause dealing with how payments are to be made, an indemnity against stamp duties and clauses dealing with environmental compliance), but the above are the most important clauses for our purposes. Since the publication by the LMA of a template syndicated loan agreement for the purpose of investment grade borrowers, the time taken agreeing these largely mechanical and standard

provisions of credit agreements has been greatly reduced. It is not the intention of this book to explain how a borrower would normally seek to negotiate the above clauses.



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## 20.10 GLOSSARY

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**Loan Market Association (LMA) :** The **LMA** was formed in **1996**, with the aim of standardizing bank loan documentation as far as possible, so that loan can be more easily syndicated or otherwise transferred in the market.

**Loan agreements:** These are the central documents in the package of agreements used to provide financial documentation in project finance.

**The lenders' term sheet:** It sets out a summary of main commercial and financial term and structure the lenders are offering, and in due course serve as a template for the financial documentation.

**The gross-up clause:** This clause provides that, if a deduction has to be made by law from any payment the borrower makes to the bank (and the main instance of this would be a withholding tax on an interest payment), then the borrower has to "gross up" the payment so that the bank receives, after the relevant deduction, the same amount that it would have received had the deduction not been made. (This enables the bank to pay, out of moneys received from the borrower, the precise amount due to his match-funder on the interest payment (or rollover) date.)

**LIBOR:** London Interbank Offer Rate. It is defined as the rate of borrowing money from other banks in the London interbank market, which the banks can borrow on themselves.



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## 20.11 REFERENCES/ BIBLIOGRAPHY

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- Scott Hoffman, (2007). The Law & Business of International Project Finance (3rd 2007, Cambridge Univ. Press).



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## 20.12 SUGGESTED READINGS

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1. Andrew Fight - Introduction to project finance
2. E. R. Yescombe - Principles of Project Finance
3. Graham D. Vinter, Gareth Price - Project finance: a legal guide
4. Project Finance for Public-Private Partnership (PPP) projects
5. Scott L. Hoffman - The Law and Business of International Project Finance 3rd edition
6. Stefano Gatti - Project finance in theory and practice



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## 20.13 TERMINAL QUESTIONS

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- Q1. What are the clauses of loan documentation?
- Q2. Discuss the role of documentation in project financing.
- Q3. What are the provisions of loan agreements as per London Bank Markets?
- Q4. What will be the project financing documents as in syndicated loan agreements?

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## **UNIT21 CONTEMPORARY ISSUES IN PROJECT FINANCE**

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### **21.1 Introduction**

### **21.2 Objectives**

### **21.3 Project Finance**

### **21.4 Project Financing- A Case of U.K.**

### **21.5 Advantages of Project Financing**

### **21.6 Contemporary Issues in Project Financing**

### **21.7 Lender's Concern in Project Financing**

### **21.8 Summary**

### **21.9 Glossary**

### **21.10 Reference/ Bibliography**

### **21.11 Suggested Readings**

### **21.12 Terminal & Model Questions**

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## **21.1 INTRODUCTION**

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There was a time when project finance was fairly a simple banking exercise, but now the economic environment has changed the scenario. It now referred as a method of financing big infra and industrial project in long durations on projected cash flow of final project rather than investors funding. Project finance structures involve numbers of investors with syndication of banks to provide funds for project

There are internal and external sources to finance a project but due to high rates and inflation, projects are now better to be financed rather than investing own capital funds. There are different project finance used for various types of project such as

- Government infrastructure project
- Exploration project such as oil,gas,fuel etc.

Finance is the life blood of any business; its management is an art and merits special attention. As already discussed in the previous unit about the project agreement, loan documentation and sub-contracts, there are various other method of project financing which needs to be checked and analyzed before one enters into any kind of project financing. Along with this, there is also a requirement to understand the issues that may arise in the project

financing, to any of the parties. The present unit thus deals with the various contemporary issues that are faced by the managers and other personnel's while going for project financing.

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## 21.2 OBJECTIVES

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After reading this unit you will be able to understand;

- Contemporary Issues in Project Financing
- Lender's Concern in Project Financing

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## 21.3 PROJECT FINANCING

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It is both short-term and long-term and is very crucial to the sources of a project. The concept of 'feasibility' under project financing covers the following areas:

- Technical Feasibility
- Commercial Feasibility
- Economic sustainability
- Project cost
- financial plan
- financial viability
- Organizational and management structure

Finance is available for project but indeed need a judicious financial management. Along with it a need of planning the flow of funds for the smooth functioning of a project. A successful project is one, which generates its own finances largely and finances its diversified activities.

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## 21.4 PROJECT FINANCING- A CASE OF U.K.

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According to the International Project Finance Association, project finance is said as "the financing of long-term infrastructure, industrial projects and public services based upon a non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project."

In UK, most project financing is under the Government's Private Finance Initiative (PFI) or said as Public Private Partnerships (PPPs). PFI introduced in the early 1990s with aim to introduce private sector skills and finance into the provision of public sector services. It is structured in a manner that private sector gets finance - usually from a bank - to design, build and operate a facility for the public benefit. In return, the public sector help these private sector partner a long-term contract to run the facility - usually for 25-30 years. Once these facilities has been built, the public sector pays the private sector a monthly fee over the life of project as it is used to service the bank loans, which were financed for the project.

***PFI is been used traditionally because:***

It is argued that the public sector should get better value for money in the long term by transferring the project to the private sector as to the risks of building and running the facility over the life of the project. Hence, it means the private sectors are generally more efficient to manage the risk.

Since the public sector is essentially purchasing a service rather than outlaying the significant capital over building, like for example, a school or a hospital, it does not need to account the cost as a liability on its balance sheet. Hence, it means that public sector does not have to borrow in order finance the capital cost.

The essential of Project Finance includes:

- A ring-fenced “stand-alone” project - usually defined as a “special purpose vehicle”
- A Finite life - defined by contract / license duration debt must repay within a finite period;
- A Debt service that relies on future project cash flows rather than the value of assets; and
- No (or only limited) guarantees from equity holders in the project company for the project finance debt.

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## **21.5 ADVANTAGES OF PROJECT FINANCING**

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Benefits of financing infrastructure projects through project finance route are:

- Risk sharing opportunity,
- Debt capacity expansions,
- Free release of cash flows, and
- Preserve competitive advantage in a competitive market.

Project finance is a useful as a tool for companies that want to avoid the issuance of a corporate repayment guarantee, thus preferring to finance in an off-balance sheet manner.

This route empower sponsor to extend their debt capacity by enabling the sponsor to finance on someone's credit, which could be the purchaser of the project's outputs. These Sponsors can raise funding simply based on the contractual commitments hence it allow the risk sharing with other stakeholder

The basic idea of project finance demands that the sponsors spread the risks in a network of arrangements of security, contractual, and other supplemental credit support to other capable parties willing to assume the risks financially thus reducing the risk exposure of the companies' project.

This financing route empowers the providers of funds to decide and manage the free cash flow, after paying the operational and maintenance expenses and other statutory payments. Whereas in traditional structure the corporate management decide and use the free cash flow in terms new investment or dividend payment, similarly the funding agencies, or the investors themselves can decide how to reinvest.

Moreover, there are no conflicts of interest between investors or the management of the company as the project have a finite life with confined business as in compassion to traditional organization .It also allow confidentiality and competitive advantage . Hence a benefit of raising equity finance for the project(this is limited for capital market financing (project bonds)). Where equity funds are to be raised (or sold at a later time so as to recycle capital) through market routes such as IPO where information are shared with the capital market hence competitor

Under project finance route, the sponsors can share the information within small group of investors and negotiate the price without revealing proprietary information to public hence investor's financial stake are confidential.

In spite advantages, it is quite complex and costly to assemble. The cost of capital arranged through this route is high in respect through conventional routes due to structured contract that are needed to be negotiated in every aspect hence higher transaction costs on account of the legal expenses for dealing legal and tax issues in project ownership, loan documentation, and other contracts.



### ***Check Your Progress- A***

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#### **Q1. What are the Advantages of Project Financing?**

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#### **Q2. Write areas are covered under the project finance feasibility?**

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## 21.6 CONTEMPORARY ISSUES IN PROJECT FINANCING

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Project finance transactions are required for the smooth functioning because Capital is the soul and in order to invest the same there can be two ways i.e. equity fund or borrowed fund. It helps to smooth functioning to bridge the financial gap but as everything has its advantages and disadvantages, project financing may also include various issues on the part of parties to agreement. Undoubtedly, it is advantageous for a firm but on the same hand needs various precautions to maintain it as advantage.

Project finance transactions present a number of potential challenges and issues. Some challenges are set forth below:

### 1) Complexity

These transactions are complex in nature, and thus may result in some degree of execution risk for all the parties involved. In addition to this the transactions involves number of participants and the interests of the participants in the project finance which may not necessary to be always perfectly aligned thus there may be complexity.

For a project to be successful there is a need of proper economical allocation of risk, which is rather difficult to achieve particularly when interest of the parties are not aligned hence create tensions and if one wants to resolve all these issues, it may lead to slow down of a project. Furthermore, financing are often project-specific and are not easy to replicate, as is the case with corporate finance techniques. It means that the upfront transaction costs, which are involved, tend to be significant, and thus thereby precluding the use of project financing techniques for smaller projects, which are less able to absorb substantial upfront costs.

### 2) Increased Lenders Risk

It is the primary characteristics of project finance that also be said to as an advantages as the sponsors uses nonrecourse or limited recourse structure. Whereas the revenue generated is not the sole course of repayments of debt. Hence, the lender assume the risk is repayment in unsuccessful conditions. In addition, the risk if not effectively allocated or credit enhancement it fall upon the lender.

### 3) Higher Rate of interest and fees

The rates charged by lenders is tend to be higher as compared to traditional corporate finance transactions because the structure of transaction is more complex (higher degree of risk borne by the lenders) and document-intensive. The high degree risk leads to have higher fees and transaction costs than for other types of financings for lenders, hence the sponsors that are typically responsible for such fees and costs.

The risk inherent as well as the complexity result in an extensive and costly due to diligence process (the cost of which is often sponsors borne) conducted by the lenders' lawyers, technical adviser, insurance consultant and other consultants. The risk and complexity may results into the need for increased insurance coverage and higher fees or additional charges to be imposed (and paid for by the project sponsors) because the lenders and other participants assumes additional risk.

#### **4) Lender Supervision (Administrative Agent, Technical Adviser and Insurance Consultant)**

In project financing, lenders require a greater supervision over the construction, management and operation than in other forms of financing because the lenders have additional risk. The increased supervision which arises during construction, startup or commissioning, and operations often results in higher transaction costs, which is the responsibility of the project sponsors.

#### **5) Reporting Requirement for Lenders**

It is supposed that borrowers have an increased administrative burden, as they are required to provide lenders with constant technical and financial information, often of monthly report on construction, operating information, financial, reports on force majeure or other causes of delay and corrective actions pursued, and notices following the occurrence of certain events

#### **6) Increment of Insurance Coverage**

Where there is a risk, there is always a need to have insurance as to secure or spread the same. Due to the nonrecourse or limited-recourse nature, the insurance program is very important to the extent of risks mitigation or covering it off by insurance at commercially justifiable prices and based upon a commercially reasonable terms and conditions, so insurance is lenders need. Whereas in developing countries, like India, concerns over political risk may result into political risk insurance becoming a requirement of today's era.

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## **21.7 LENDER'S CONCERN IN PROJECT FINANCING**

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Various elements are matter of concern to the lenders who are financing it. In every case or any situation, there will always be an optimal position that is best for the lenders.

Here under we have taken an example of a private sector company or partner with sole purpose of owning the project as 'Project company', and the contracting local authority entering into the agreement with Project company as the 'Authority', in order to discuss in detail the concerns to the lender who is financing a particular project Consents.

### **1) Consents**

Consent of the parties involved the projects are the most important element of project finance. The optimum position in relation of consents and authorizations required before a project as:

- the terms of consents should not be subject to much variation by regulators;
- the permits should be fully transferrable;
- all consents be issued for the duration of the project;
- consents should not be terminated if the lenders have to enforce their security, and can be transferred to a purchaser from the lenders following any enforcement.

It is not necessary to have all the above conditions followed by the lenders as he may feel about relaxing conditions depending on the record of accomplishment in reference various regulators and issuing authorities involved.

In addition, he may possible pass the risk of not obtaining or renewing consent or a change to that consent's terms and conditions on to another party and this be done at the project agreement stage.

## **2) Shareholders' agreements and sponsors' equity contributions**

The optimum position for the lenders in reference Shareholder's agreement and the financiers or sponsors equity contributions are:

- the sponsors provide all of their equity contributions up front;
- they should provide cover for the cost of the project overrunning; and
- Sponsors should provide cover for any gaps in insurance coverage.

The sponsors may pay in their equity contributions over time or even to back-end those contributions, or pay them after the project complete, as long as the lenders are happy with the creditworthiness of those sponsors, may accept it. These sponsors could also provide some form of credit enhancement to the lenders for additional security, for example a letter of credit.

It is unlikely that the sponsors will be happy to cover any gaps in insurance coverage. The optimum position the lenders generally practice the party most likely to be required to perform the role of insurer as a last resort is the Authority. It also possible to structure the project finance document around any problems caused by insurance gaps.

## **3) The project agreement**

The term 'project agreement' has already been discussed in the study where we found that, an agreement made between two or more parties is to accomplish a certain goal in a certain way. As far as the issues are concerned, the agreement includes various typical clauses, which may become the matter concern for lender

The optimum position in respect of the project agreement is as follows:

- the terms for the concession should be fixed for the life of the project;
- the arrangements for termination of the concession, where this is permitted, should not be deprive Project company of their rights and any compensation to which entitled should be sufficient in order repay the lenders; the imposed should not be any unduly onerous or difficult terms for the project company
- the Authority shall accept the risk of any changes in the law as its difficult for the lenders to accept that Project company carry this risk, and if this is the case they should make enquiries into actual expenditure which was brought by such a change in the law is to be funded or reduced;
- the concession should not be terminated simply in terms to enforce their security;

- the concession period can be extended by any period of 'force majeure', or burdensome events that occurred due to uncontrollable conditions of the parties;
- On enforcement, it should be freely transfer the concession to a third party.

The lenders shall be prepared to accept more onerous terms in concession agreement, as long as the project company is able to pass risk to other contracting parties with reasonable creditworthiness.

The compensation in terms of termination for reasons other than default by Projectco is usually sufficient to repay, and ideally provide some return to investors. In these cases, additional sums should be included, as Project Company may have to pay for early termination of other arrangements.

The Authority may deduct amount from the compensation as it may pay which credited to the Project company bank accounts and any equity committed by the sponsors but not injected into Project Company. It shall be accept and provided the lenders to have security over Project company's bank accounts and the sponsors' equity injection undertakings. Lenders will reluctantly accept, where the project covered by the finance arrangement is a national importance, the granter of concession has a veto power over the identity of the person it is granting that concession. It is possible to limit such a control to their satisfaction with the technical and financial capability of the person proposed.

#### **4) The construction contracts**

A construction contract is usually to design/engineer the project.

The lenders' ideal position is as follows:

- the construction contracts should be turnkey, hence the responsible for all aspects of the construction and design of the project output;
- completion must occur within a fixed time period;
- there should be a fixed price, incapable of being readjusted, and shall be paid in one lump sum on completion;
- Whenever a concession agreement presented, the contractor should be able to claim for force majeure only, an increase in price or an extension for completion time to the level of original concession agreement. In addition, completion under the construction contract can only occur under the concession agreement;
- the events that could be considered for 'force majeure' should be limited;
- liquidated, financial damages should be payable if completion is not achieved by a fixed date and those liquidated damages should be adequate and cover interest payable on the loan for the reasonable period;
- there should be no - or, at least, no large - limits on the contractor's liability;

- there should be employer's agent instead of contract administrator or engineer, this person would be an agent of Project company and made subject to the restrictions contained in credit agreement;
- the contractors should give extensive guarantees and, if he is to be released from liability for defects after a certain period has passed, where period should be long and should begin after running a well-defined completion test been passed.

However, all of the above ideal positions mentioned above are achieved he lenders may be satisfied with a project management approach to construction so long as they receive technical advice on all aspects of the design and works covered by the contractor. Hence, they persuaded that the overall position with in respect to limits on liability, liquid damages and warranties is acceptable.

Lenders will accept that lump sum payment really is unobtainable and that the construction contract may instead come with staggered payments, providing that these be on sensible milestones achieved or by reference to the value of the work and as long as some price retention or a performance bond is included.

Lenders normally accept the construction period extend for force majeure, and other risks. However, lenders tend to dislike wide force majeure clauses and will normally,

For example, expect a contractor to take responsibility for his own workforce in terms of something like industrial action affecting the works. Sometimes the lenders will go further and request that a general provision be included in the construction contract stating that the contractor can only claim from Project Company what Project company itself is able to claim and actually receives from the person granting the concession.

### **5) The operation and maintenance agreement**

Where operation and maintenance agreement is concerned, the optimum position for the lenders is the same as of Project Company and is as follows:

- the operator should be given proper incentive to run the project effectively and efficiently;
- the operator should be subject to penalties if operating targets are not met;
- the lenders will expect penalties to occur at a point comfortably above that which puts repayment of their loans in jeopardy;
- the lenders should be able to remove or bring about the removal of the operator for poor performance or negligence;
- the lenders be allowed some control for the dismissal of an operator for poor performance through the termination rights that Project company has under the operation and maintenance element of the project agreement.

**6) Lender's security concerns**

Lenders' main legal concerns on the underlying contracts are likely to be:

- Ensuring effective security over the contracts; and
- Ensuring that all the key contracts remain in place in one form or another when they enforce that security.

The project agreement is not assignable or chargeable in general without the other party's consent and, if such consent is not forthcoming, then the most that be obtained is on the charge of proceeds of the contract.

The second point is usually dealt with a way of direct agreements.



***Check Your Progress- B***

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**Q1. List out the disadvantages of Project Financing?**

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**Q2. As a lender, what will be your concern under construction contracts?**

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**Q3. What are the challenges involved in Project Financing?**

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## 21.8 SUMMARY

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Project finance primarily benefits sectors or industries where, projects are structured as a separate entity, apart from their sponsors. It is a method of financing big infrastructure and industrial project in long durations on projected cash flow of final project rather than investors funding. Thus these are primarily assumed to serve different types of project such as Government infrastructure project, Exploration project such as oil, gas, fuel etc.

Finance is available for project but indeed need a judicious financial management. Along with it a need of planning the flow of funds for the smooth functioning of a project. A successful project is one, which generates its own finances largely and finances its diversified activities.

Project finance is a useful as a tool for companies that want to avoid the issuance of a corporate repayment guarantee, thus preferring to finance in an off-balance sheet manner. The Benefits that project finance route provides to an organization includes Risk sharing opportunity, Debt capacity expansions, Free release of cash flows, and Preserve competitive advantage in a competitive market. In the financial sector, by contrast, the large volume of finance that flows directly to developing countries' financial institutions has continued to be a part of the usual corporate lending kind. But all these do not mean that Project Finance has no disadvantages. There are certain challenges and disadvantages to project finance which includes, Complexity of the process due to increment in transaction cost and number of parties; Expensiveness of the project, as the project development and diligence process is a costly affair; Litigiousness with regard to negotiations; Complexity due to lengthy documentation; Broader risk analysis and evaluation to be performed, Requirement of qualified people for performing the complicated procedures of project finance; Obligations regarding the trust fund account which is needed to be specified clearly and the Higher level of control which might be exercised by the banks, which might bring conflict with the businesses or contracts.

As lender is an important party to project agreement, he needs to be careful and concerned with various challenges and issues that may arise in project financing. The elements that are involved in a project finance to their lenders thus needs to be taken care of for the smooth functioning of organization lending it and also for the organization's borrowing finance for their projects. All these issues, challenges and concerns are thus a matter of discussion, as already been detailed in the present Unit XX.



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## 21.9 GLOSSARY

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**Project finance:** Project Finance is referred to as a method of financing big infra and industrial project in long durations on projected cash flow of final project rather than investors funding. International Project Finance Association, project finance is defined as “the financing of long-term infrastructure, industrial projects and public services based upon a non-recourse or limited recourse financial structure where project debt and equity used to finance the project are paid back from the cash flow generated by the project.”

**‘Feasibility’:** It refers to the assessment of a project in terms of its Technical Feasibility, Commercial Feasibility, Economic Viability and financial viability

**Lenders:** Investment banks, Commercial banks or other institutional investors who all provide such kind of debt portion of the project financing are termed as lenders.

**Equity investors:** Equity investors are those project sponsors or lenders who do not expect or wish to have any kind of active role in the project. In case of lenders, investors will have a shareholding as an addition to the lending given by way of debt; this is just a way of receiving an enhanced return if the project gets successful.

**Project sponsor:** Project Sponsor includes all those persons who take on an active role in the management of project. The project sponsor owns the company and also receives the profit either because he owns the company or may receive it via management contracts, on the successful completion of the project. Along with this, the project sponsor also has to cover certain liabilities or risks of the project representing himself as a guarantor or by entering into management or service agreements.



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## 21.10 REFERENCES/ BIBLIOGRAPHY

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- Neupane, Law.(2012) "*Project Finance Cross-Border Risks in Nepal*". Neupane Law Associates. Retrieved 9 October 2012.
- Scott Hoffman(2007), *The Law & Business of International Project Finance* (3rd 2007, Cambridge Univ. Press).



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## 21.11 SUGGESTED READINGS

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1. Andrew Fight - Introduction to project finance
2. E. R. Yescombe - Principles of Project Finance
3. Graham D. Vinter, Gareth Price - Project finance: a legal guide
4. Project Finance for Public-Private Partnership (PPP) projects
5. Scott L. Hoffman - The Law and Business of International Project Finance 3rd edition
6. Stefano Gatti - Project finance in theory and practice



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## 21.12 TERMINAL QUESTIONS

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- Q1. What are the prime concerns or challenges for lenders in project financing? Discuss
- Q2. ‘Project Finance is not devoid of any disadvantages’. Comment
- Q3. What contemporary issues do the parties to project finance face during the process of project financing?
- Q4. Discuss the process of project financing as a case of U.K?
- Q5. What are the advantages or benefits of project financing? Discuss.