بانک صنعت و معدن
Bank of Industry & Mine
Together, building a Better Future

ADFIMI - BIM Joint Seminar On

International Project Finance & Cash Flow Modelling

Parsian Evin Hotel, Tehran, Iran
17-18 December 2014

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Seminar Outline

DAY 1: 17 December 2014	
Time	**Topic**
8.30 a.m. – 9.00 a.m.	Registration
9.15 a.m.-9.30 a.m.	Welcome remarks by ADFIMI Secretary General
Setting the Stage	
Session 1 9.30 a.m. -11.00 a.m.	➢ Overview of Project Finance ▪ Definition and applications ▪ Major Participants ▪ Risk sharing mechanism ▪ Project finance vs. corporate finance ▪ History of large project financing ▪ Project finance in modern times ▪ Advantages and disadvantages ▪ PPP & Project Finance
11.00 a.m.-11.15 a.m.	*Coffee Break*
Session 2 11.15 a.m. – 12.45 p.m.	➢ Project Development ▪ Government perspective ▪ Sponsor's perspective ➢ Sources of Finance ▪ Types of financing ▪ Sources of financing ▪ Comparison of financing sources
12.45 p.m. – 1.45 p.m.	*Lunch & Prayer Break*
Project Agreements and Finance Documents	
Session 3 1.45 p.m. - 3.15 p.m.	➢ Project Agreements ▪ Basic document structure ▪ Risk and mitigation ▪ Organizational Documents ▪ Key agreements ❖ Concession agreement ❖ Off-take agreement ▪ Cost based contracts ❖ EPC contract ❖ Input supply contract ❖ O&M contract
3.15 p.m. – 3.30 p.m.	*Coffee Break*
Session 4 3.30 p.m.-5.00 p.m.	➢ Finance and Security Documents ▪ Equity support agreement ▪ Common terms agreement ▪ Individual loan facility agreement ▪ Inter-creditor agreement ▪ Accounts Agreement ▪ Security sharing agreement ▪ Security Documents
19.00 p.m.-21.00 p.m.	***Gala Dinner:*** *Mr. Ali Ashraf Afkhami, Chairman of the Board of Directors & Managing Director of the BIM will host the participants at BIM's Leisure Center*

DAY 2: 18 December 2014	
Financial Modeling	
Session 5 9.00 a.m. – 10.30 a.m.	➢ Purpose and uses of Financial Model ▪ Use of a Financial Model during Project Evaluation, Negotiation, Construction, and Operation Period ➢ Developing a Financial Model ▪ Golden rules ▪ Input / assumption sheet ▪ Calculation sheets ▪ Output sheets ▪ Sensitivity Analysis ▪ Introduction to MS Excel
10.30 a.m. – 10.45 a.m.	*Coffee Break*
Session 6 10.45 a.m. – 12.45 p.m.	➢ Important concepts of Financial Model ▪ Annuity/ Level principal debt profile ▪ Grace/Moratorium ▪ Up-front fees, monitoring fees, & commitment fees ▪ All-in-rate ▪ Using logical functions ▪ Minimum, Maximum, Average and Rank ▪ E-function ▪ NPV, IRR, MIRR, WACC ▪ Switch, Transpose
12.45 p.m. – 1.45 p.m.	*Lunch & Prayer Break*
Session 7 1.45 p.m. – 3.00 p.m.	➢ Developing a Financial Model ▪ Working Example 1 ▪ Working Example 2 ▪ Working Example 3
3.00 p.m. – 3.15 p.m.	➢ Quiz
3.15 p.m. – 3.30 p.m.	*Coffee Break*
Session 8 3.30 p.m. - 5.00 p.m.	➢ Case Analysis
5.00 p.m. - 5.30 p.m.	➢ Closing Ceremony

ADFIMI – BIM JOINT SEMINAR

"INTERNATIONAL PROJECT FINANCE & CASH FLOW MODELING"

TEHRAN, IRAN, 17-18 DECEMBER 2014

NAZMUL HAQUE
Director (Investment) & Head of Advisory, IDCOL

Session 1

Overview of Project Finance

OVERVIEW OF PROJECT FINANCE

- Ø Definition and applications
- Ø Major Participants
- Ø Risk sharing mechanism
- Ø Project finance vs. corporate finance
- Ø Origin of large project financing
- Ø Project finance in modern times
- Ø Disadvantages of Project Financing

WHAT IS PROJECT FINANCE?

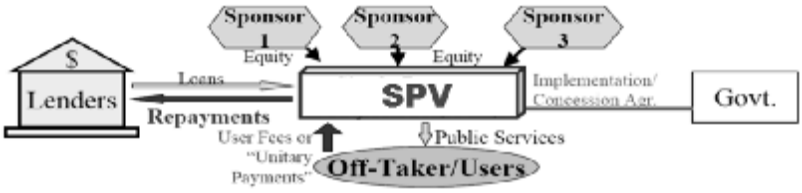
The International Project Finance Association defines Project Finance as

"financing of long-term capital intensive projects i.e. infrastructure, industrial projects, power plant, etc., where debt and equity used to finance the project are paid back from the cash-flows generated by the project."

The two key aspects of project financing are:

1. The project revenues (cash flows) are expected to service debt or equity interest taken by the providers of capital.
2. The loans are secured by the project assets or, to the extent security interests are restricted or have limited value, are secured by contingent support from sponsors and other project participants.

GENERIC PROJECT FINANCE STRUCTURE



- A firm or consortium of firms establish a new Special Purpose Vehicle (SPV) to Build & Operate a new facility, usually an infrastructure project.
- The SPV is capitalized with equity contributions from sponsors.
- The SPV then borrows funds from lenders who look almost only to projected future cash flow streams generated by the project to repay all loans.
- Host country government usually does not provide guarantee to lenders. Private sponsors may provide limited guarantees to contribute more equity.

MAIN CHARACTERISTICS

- Project is a distinct legal entity.
- Lumpy capital investment.
- Limited recourse to equity participants/sponsors.
- Credit appraisal and lending decision is based on the inherent economics of the project, not the credit standing or balance sheet of any sponsor.
- Project has little or no direct impact on Sponsor's balance sheet.
- Extensive due diligence, lengthy documentation and lengthy negotiation period.
- Cash flow based.

RECOURSE…..

Full Recourse Loan: A loan in which the lender can claim more than the collateral as repayment in the event that the loan is enforced. Thus a full recourse loan places the Sponsor's assets at risk.

Non Recourse Loan: A loan in which the lender cannot claim more than the collateral as repayment in the event that the loan is enforced.

Limited Recourse Loan: A loan in which the lender can claim more than the collateral, subject to some restrictions, as repayment in the event that the loan is enforced.

Collateral: Assets pledged as security for a loan. In the event a borrower defaults on the terms of a loan, the collateral may be sold, with the proceeds used to satisfy any remaining obligations.

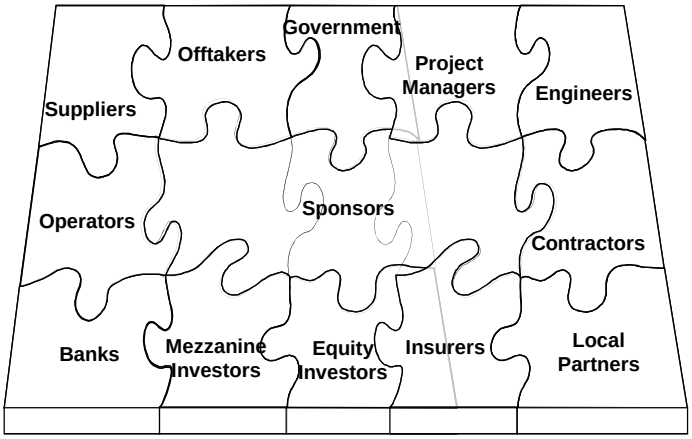
ELIGIBLE PROJECTS

- **Transport**
  - Toll roads
  - Tram/ Rail schemes
  - Bus Terminals
  - Tunnels
  - Bridges
  - Airports
  - Sea Ports
- **Water**
  - Potable water projects
  - Waste water (sewage) projects
- **Power**
  - Power stations (IPPs)
  - Transmission lines
  - Off-grid small power projects
- **Others**
  - Gas pipeline
  - Oil pipeline
  - Telecommunications
  - Schools
  - Hospitals
  - Prisons
  - Entertainment zone

WHY PROJECT FINANCE?

- **Project Owners' Perspective**
  - Size and cost of projects
  - Risk minimization
  - Preservation of borrowing capacity and credit rating
  - May be only way that enough funds can be raised

MAJOR PARTICIPANTS



MAJOR PARTICIPANTS

Sponsor

- Developer of the project
- May consist of an individual but more often is organized as a company
- Sponsors usually demonstrate previous track record and experience in managing similar projects
- Sponsors insist on long term predictable cash flows

Project Company

- Separate entity from sponsors
- Sponsor(s) generally form a special purpose vehicle (SPV) to own and operate the project. This SPV is known as Project Company
- Sponsor members are required to make capital investments in the SPV according to the terms of their shareholders' agreement
- Lenders give loans to the SPV, not to the sponsors

MAJOR PARTICIPANTS

Construction Contractor

- Construction contractor is the entity that builds the project under an engineering procurement and construction contract ("EPC").
- EPC contracts are generally fixed price – fixed term.
- Lenders prefer a single EPC contract because it gives them a single-point responsible party for all activities.
- EPC contractor is subject to penalty payment for underperformance.
- Contractor's involvement is short term in nature.
- Higher (and earlier) profitability.

MAJOR PARTICIPANTS

Lenders

- Multilateral and Bilateral Agencies
  - The World Bank, ADB, African Development Bank etc.
  - International Finance Corporation
  - Regional development banks, etc.
- Commercial Lenders
- Export Credit Agencies
  - US Export Import Bank ("US Exim")
  - Export Credit Guarantee Department of the United Kingdom ("ECGD")
  - Export Credit Agency of France ("COFACE")
- Bond Markets
- Insurance Companies

MAJOR PARTICIPANTS

Off-taker

- The entity that is the single purchaser of the project output
- More than one off-taker is very uncommon
- Some Project Financed deals do not have off-takers, e.g.
  - toll road
  - container port
  - mass transport system, etc.
- The off-take agreement guarantees purchase of project output
- The payments due under the off-take agreement constitute a major element in determining the finance-ability of the project.

MAJOR PARTICIPANTS

Operator

- Responsible for the operation and maintenance of the project in exchange of fee
- Operator is subject to penalty payment for underperformance
- Project company can also be an operator

Input Supplier

- Responsible for delivery of inputs to the project
- Input supply agreement may be entered into
- Take or pay contract
- Supplier is also subject to penalty payment for underperformance

RISK SHARING MECHANISM

It's All About Risk!

The key to project financing is the reallocation of any risk by contract or otherwise, to the party best able to mitigate or control risk.

MANAGEMENT AND ALLEVIATION OF RISKS

Principle Categories of Risk: *Pre-Completion* and *Post-Completion*

A: Pre-Completion Risks:

Types of Risks	Ways to Reduce or Shift Risk
n Participant Risks	
- Sponsor commitment to project	- Reduce Magnitude of investment? - Require Lower Debt/Equity ratio - Finance investment through equity then by debt
n Construction/Design defects	- Attain Third party credit support for weak sponsor (e.g. L/C) - Cross default to other sponsors - Experienced Contractor - Turn key construction contract

MANAGEMENT AND ALLEVIATION OF RISKS

A: Pre-Completion Risks (cont'd):

Types of Risks	Ways to Reduce or Shift Risk
n Process failure	- Process / Equipment warranties
n Completion risks	
- Cost overruns	- Pre-agreed overrun funding
	- Fixed (real) Price Contract
- Project not completed on time	- Completion Guarantee
	- Tests: Mechanical/Financial for completion
- Project does not attain mechanical efficiency	- Output guarantee
	- Assumption of Debt by Sponsors if not completed satisfactorily

MANAGEMENT AND ALLEVIATION OF RISKS

B: Post-Completion Risks:

Types of Risks	Ways to Reduce or Shift Risk
n Natural Resource/Raw Material	- Independent reserve certification
- Availability of raw materials	- Example: Mining Projects: reserves twice planned mining volume
	- Firm supply contracts
	- Ready spot market
n Production/Operating Risks	
- Operating difficulty leads to insufficient cash flow	- Proven technology
	- Experienced Operator/ Management
	- Performance warranties on equipment
	- Insurance to guarantee minimum cash

MANAGEMENT AND ALLEVIATION OF RISKS

B: Post-Completion Risks:

Types of Risks	Ways to Reduce or Shift Risk
n Market Risk	
- Volume -cannot sell entire output	- Long term contract with creditworthy buyers :take-or-pay; take-if-delivered; take-and-pay
- Price - cannot sell output at profit	- Minimum volume/floor price provisions - Price escalation provisions
n Force Majeure Risks	
- Strikes, floods, earthquakes, etc.	- Insurance - Debt service reserve fund

MANAGEMENT AND ALLEVIATION OF RISKS

B: Post-Completion Risks:

Types of Risks	Ways to Reduce or Shift Risk
n Political Risk	
- Covers range of issues from nationalization/expropriation, changes in tax and other laws, currency inconvertibility, etc.	- Host govt. political risk assurances - Official insurance: OPIC, COFACE, EXIM - Private insurance: AIG, LLOYDS - Offshore Escrow Accounts - Multilateral or Bilateral involvement
n Other Risks	
- Syndication risk	- Secure strong lead financial institution
- Currency risk	- Currency swaps / hedges
- Interest rate exposure	- Interest rate swaps
- Rigid debt service	- Built-in flexibility in debt service obligations

THE NEED FOR CONTRACTS

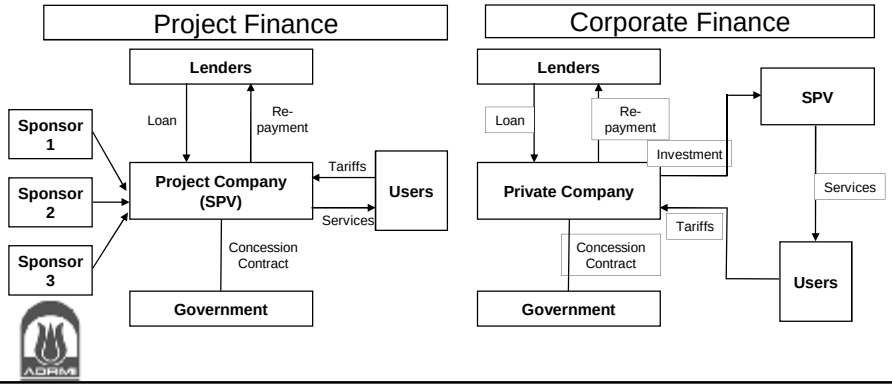
- Project financing arrangements invariably involve strong contractual relationships among multiple parties.
- Project financing can only work for those projects that can establish such relationships and maintain them at an acceptable cost.
- To arrange a project financing, there must be a genuine "community of interest" among the parties involved in the project.
- In must be in each party's best interest for the project financing to succeed.
- Only then will all parties do everything they can to make sure that it does succeed.

MOST IMPORTANT THINGS IN PROJECT FINANCE

- CASH FLOW
- CASH FLOW
- CASH FLOW

PROJECT VS CORPORATE FINANCE

- Three key differences between corporate and project finance
  - Differences in Credit profiles
  - Differences in Loan structures
  - Differences in Behavioral characteristics



PROJECT VS CORPORATE FINANCE

Project Finance:

- Single, capital-intensive facility
- Robust and predictable cash flows for the project
- High leveraged
  [higher capacity to take on debt due to cash flow predictability]
- Extensive risk identification, mitigation and allocation to third parties
- Highly tailored
  [synchronization of construction costs with loan drawdowns; and operating cash flow with loan repayment]

Corporate Finance:

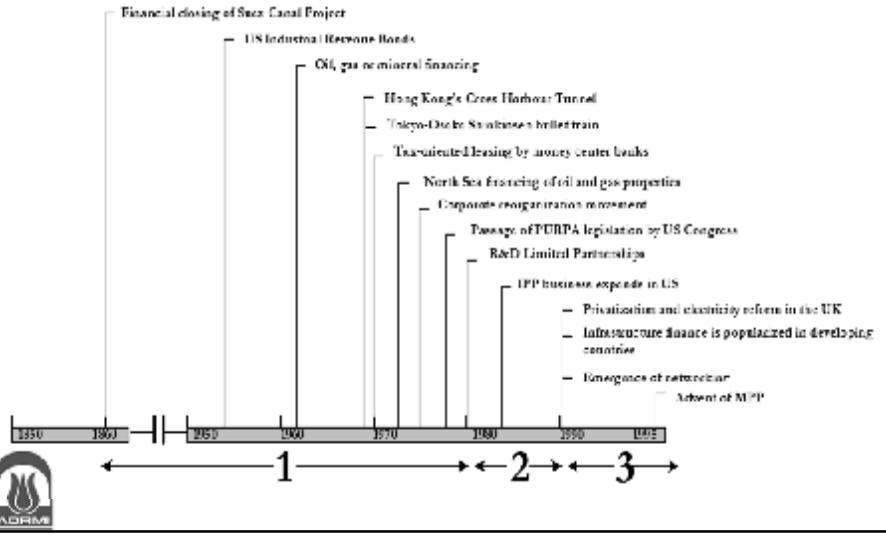
- Single or multiple, capital or labor intensive facility
- Robust and predictable cash flows for the corporate entity
- Low leveraged
  [lenders prefer not to lend to a highly leveraged company]
- Major risks are borne by corporate entity
- Standard structure
  [loan repayment follows a standard structure and cash flows must be able to meet this "Standard"]

Leveraged: Refers to an investment situation in which borrowed funds are used for investment.

ORIGIN & DEVELOPMENT OF PROJECT FINANCE

- The first recorded use of Project Finance was probably in 1800 BC. Under the Code of *Hammurabi*, ship owners could raise money for vessel construction using a form of mortgage finance known as *bottomry*.
- The first true infrastructure Project Finance deal of the modern era was the Suez Canal in 1858.
- In the last two decades, Project Finance techniques have been applied to a variety of commercial as well as infrastructure projects.
- Recent spurt in use of project finance techniques applied to infrastructure transportation, mining, utilities and large industrial projects.
- Today even medium-scale projects (US $5 million) can use project finance

PROJECT FINANCE IN MODERN TIMES



DISADVANTAGES OF PROJECT FINANCING

- Often takes longer to structure than equivalent size corporate finance.
- Higher transaction costs due to creation of an independent entity.
- Project debt is substantially more expensive (50-400 basis points) due to its non-recourse nature.
- Extensive contracting restricts managerial decision making.
- Project Finance documentation is lengthy, complex and costs higher to put into place.
- Lenders require more comprehensive, costlier insurance coverage.
- Project Financing is cost effective only for relatively large deals.

Session 2

- PPP and Project Finance
- Project Development
- Sources of Finance

PPP AND PROJECT FINANCE

- What are PPPs?

  Public-Private Partnerships (PPPs) are a form of legally enforceable contract between the public sector and private sector, which requires new investments by the private contractor (money, or technology, or expertise/time, or reputation, etc.), which transfers key risks to the private sector (design, construction, operation, etc.), in which payments are made in exchange for performance, for the purpose of delivering a service traditionally provided by the public sector.

- PPP is a process, complementary to public procurement

  Not a substitute, because not all goods and services that are currently publicly provided could be procured through PPP

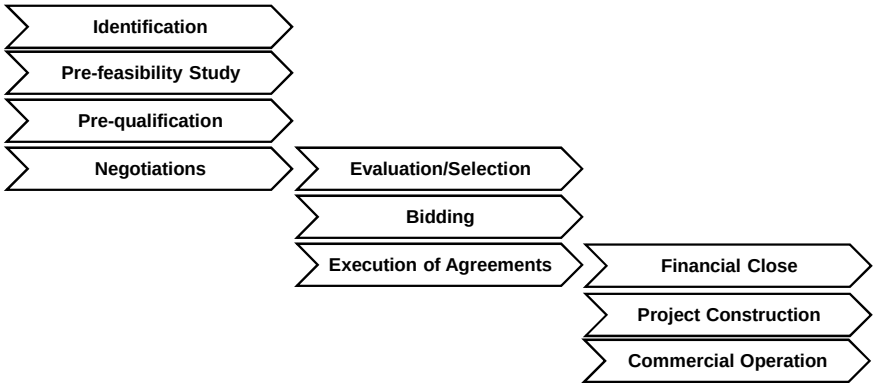
- Examples of PPP Projects: Power plants, ports, toll roads etc.

PPP AND PROJECT FINANCE

- Key chahracteristics of PPP projects
  - Economies of scale, bigger=better
  - Capital Intensive: High capital costs and relatively lower operating costs
  - Long-term investments (15~50 years): Requires long-term financing
  - Generally stable demand; whether the economy is in expansion or recession, demand levels is relatively stable compared to other sectors
  - Generally Low Asset Turnover Ratios and Highly leveraged

- **Project Finance is the most dominant method for financing PPP projects**

STEPS OF PROJECT DEVELOPMENT PROCESS



PHASES	ACTIVITIES
IDENTIFICATION	- Project location - Capacity & technology selection
PRE-FEASIBILITY STUDY	- Objectives & priorities - Technical, economic, commercial, financial, environmental review
PRE-QUALIFICATION	- Pre-qualification criteria determined & pre-qualification document prepared - Pre-qualification notice issued - Selection of pre-qualified bidders
BIDDING	- Preparation of bid documents and contracts - Prepare criteria for bid evaluation - Issue request (RFP) for bids to Pre-qualified bidders - Pre-bid conference - Collection of Bids
EVALUATION/ SELECTION	- Evaluate bids - Offer LOI to 1st ranking bidder (Lowest Responsive)
NEGOTIATIONS	- Negotiate with the selected bidder on concession agreements (PPA, FSA, etc.)
EXECUTION OF AGREEMENT	- Signing the agreements - Approve consents, permits etc.
PROJECT CONSTRUCTION	- May start before or after Financial close
FINANCIAL CLOSE	- Concessionaire negotiates loan agreements - Complete all necessary agreement and condition precedent
COMMERCIAL OPERATION	- As per agreed upon date

PROJECT DEVELOPMENT

- **Government perspective**
- **Sponsor's perspective**

RISK IDENTIFICATION AND ALLOCATION

Risks	Project Company	Other Contractors	Host Govt.	Lenders
Political			√	
Country Commercial	√		√	
Country Legal			√	
Development/ Construction Completion	√	√		√
Operating	√	√	√	√

SPONSOR'S PERSPECTIVE

WHY?

- What is the purpose of developing a project?
  - Increasing Return (making money)
    - Maximize return to shareholders
    - Grow business
  - Serving a Need (The World Bank, ADB etc.)
    - Provide a needed service to an un-served market
    - Develop independence/alleviate poverty

SPONSOR'S PERSPECTIVE

DEVELOPMENT = RISK MANAGEMENT

- Managing Risk
  - Off-Take
    - à Non-performance
  - Supply
    - à quality/volatility
  - Construction
    - à Cost/scope of work
  - Financing
    - à Availability
    - à cost

SPONSOR'S PERSPECTIVE

STAGES OF PROJECT DEVELOPMENT

- Early Stage (Originate…)
  - à Project Idea
- Second Stage (Formalize…)
  - à Defining the Project
- Advanced Stage (Mobilize…)
  - à Implementing the Project

SPONSOR'S PERSPECTIVE

EARLY STAGE DEVELOPMENT

- What kind of project?
- What kind of proposal should be submitted (unsolicited vs. solicited)?
- Should the developer team up with a local partner or adviser?
- Is the project feasible (technically/economically)?
- How long will it take to complete the project?

SPONSOR'S PERSPECTIVE

WHAT KIND OF PROJECT?

- Build Own and Transfer ("BOT")
  - à Involves transfer of asset sometime in the future
  - à More popular in markets that are not open to private sector
- Build Own and Operate ("BOO")
  - à Does not involve the transfer of the asset but still based
  - à Preferred method of project development in market that is promoting private investment and ownership

SPONSOR'S PERSPECTIVE

WHAT KIND OF PROPOSAL?

- Solicited
  - Competitive
  - Usually open and transparent process
  - Can take longer to implement
- Unsolicited
  - Quick implementation
  - Usually higher cost since uncompetitive
  - Can raise questions regarding transparency

SPONSOR'S PERSPECTIVE

LOCAL PARTNER - ADVISOR

- Advantages
  - Understands local customs and traditions
  - Understands local government
  - Has established relationships with community shakers and movers
- Disadvantages
  - Conflict in how to manage business
  - Tends to stick to local way of conducting business
  - Prevents developer from establishing relationships

SPONSOR'S PERSPECTIVE

IS THE PROJECT FEASIBLE?

- Technically
  - In house experts (engineers, technicians, operators)
  - Professional consultants (engineering firms)
  - Local consultants
- Economically
  - In house experts (accounting & finance)
  - Professional consultants (financial advisor)

SPONSOR'S PERSPECTIVE

HOW LONG WILL IT TAKE?

- Factors influencing length of time for development of the project
  - Initial award
  - Negotiation of agreements
  - Appointment of contractors
  - Funding
  - Construction (implementation)
- Can be difficult to assess
- Impact of delay:
  - Change in government

SPONSOR'S PERSPECTIVE

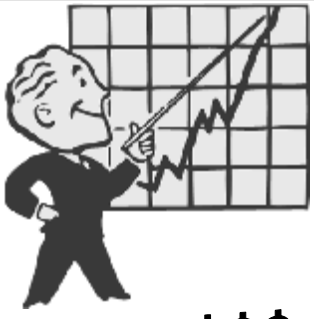
SECOND STAGE DEVELOPMENT

- Negotiation of project agreements
  - Off-Take/Supply/Construction
- Finalization of detailed feasibility studies and reports
  - Environmental/Social
  - Engineering Reports
  - Market/Resource Studies
- Preparation of a cash flow model based on project agreements

SPONSOR'S PERSPECTIVE

ADVANCED STAGE DEVELOPMENT

- Funding
  - Equity
    - Contributed by the investors
  - Financing
    - Commercial Lenders
    - Multilateral (IFC, ADB)
    - Bonds (needs a market)
    - Public Offering (needs a market)



Show me the money$$$

SPONSOR'S PERSPECTIVE

FINANCING PROCESS

- Solicitation and Selection of Financial Institutions (commercial/multilateral)
- Due Diligence
- Negotiation of Term Sheet
- Documentation
- Signing and Completion of Conditions Precedent

SPONSOR'S PERSPECTIVE

INITIATE CONSTRUCTION

- After securing financing, the developer is free to proceed with implementation of the project

SPONSOR'S PERSPECTIVE

THINGS TO CONSIDER

- Cost management
  - Employees
  - Advisors
  - Travel
- When is it too late to turn back?

SOURCES OF FINANCE

- Types of financing
- Sources of financing
- Comparison of financing sources

TYPES OF FINANCING

There are three types of project finance:

- Equity
- Debt
- Government Grants

TYPES OF FINANCING

Equity

- In the form of Preferred Stock or Common Stock
- Equity for project finance comes with a designated rate of return target, which is higher than the rate of borrowed capital as debt.
- This is to compensate the higher risks taken by equity investors as they have junior claim to income and assets of the project.
- General Sources: The main providers of equity are project sponsors, government, third party investors, and internally generated cash. Equity fund may also be raised from the capital market.

TYPES OF FINANCING

Debt

- Debt refers to borrowed capital from banks and other FIs.
- It has fixed maturity and a fixed rate of interest. Lenders of debt capital have senior claim on income and assets of the project.
- Generally, debt finance makes up the major share of investment needs (usually about 70 to 90 per cent) in PPP projects.
- The common forms of debt are:
  - Commercial loan
  - Bridge finance
  - Bonds and other debt instruments
  - Subordinate loans

TYPES OF FINANCING

Government Grants

- Government grants often make PPP projects commercially viable, reduce financial risks of private investors, and achieve socially desirable objectives such as to induce growth in a backward area.
- Many Governments have established formal mechanisms for the award of grants to PPP projects.
- Grants may cover 10 to 40 per cent of the total project investment.

SOURCES OF FINANCING

The main sources of Capital and Debt for Project Financing are:

- Equity investment from project promoters / investors
- National and foreign commercial banks and financial institutions
- Institutional investors
- Capital market
- International financial institutions

SOURCES OF FINANCING

National and Foreign Commercial Banks and FIs

- Loans provided by national and foreign commercial banks and other FIs generally form the major part of the debt capital.
- The rate of interest could be either fixed or floating and normally loans are provided for a term shorter than the project period.
- Often two or more banks and financial institutions participate in making a loan to a borrower known as syndicated loan.
- Refinancing of the loan is required when the loans are provided for a maturity period shorter than the project period.

SOURCES OF FINANCING

Institutional Investors

- Institutional investors such as investment funds, insurance companies, mutual funds, pension funds normally have large sums available for long-term investment and may represent an important source of funding for infrastructure projects.
- Generally the institutional investors provide loans as subordinated debt.

SOURCES OF FINANCING

Capital Market

- Funds may be raised as both equity and debt from the capital market by placement of shares, bonds and other instruments on a recognized domestic or foreign stock exchange.
- Generally, the public offering of these instruments requires regulatory approval and compliance with requirements of the concerned stack exchange.
  - For example, companies must have three profitable years of operation before they can be listed on the Shenzhen and Shanghai exchanges.
- Securitization of existing assets is another relatively new mechanism in Asia which has been undertaken in China.
  - Securitization is undertaken once the project is operating, after certain project risks such as construction delays, cost overruns and other initial risks have been mitigated.

SOURCES OF FINANCING

International Financial Institutions

- International and regional financial institutions such as the World Bank, Asian Development Bank, the European Investment Bank, African Development Bank and Islamic Development Bank can provide loans, guarantees or equity to privately financed infrastructure projects.

SOURCES OF FINANCING

Financial Structure: Why Does it Matter?

- As the expected ROE is higher than return on debt, the shares of debt and equity in financing package have important implications for cash flow of the project.
- Their relative share is also important for taxation purpose (generally the higher the debt the lower is the tax on return).
- Higher proportion of debt, however, requires larger cash flow for debt servicing, which could be problematic, particularly in the early years of project operation. Thus, default risk would be high.
- Once construction completes and cash flow materializes, expensive equity or debt capital can be refinanced using cheaper debt capital.

COMPARISON OF FINANCING SOURCES

Impediments Faced by Commercial Banks

- Political sensitivity of infrastructure projects
- Prolonged investment (including debt service) recovery
- Significant cross currency risk.
- Regulatory constraints (e.g. restrictions on borrowing foreign currency).
- Large commercial finance companies must buy all their funds in the debt markets and relend at a spread. Consequently, funds from finance companies tend to be highly priced.
- Some large commercial banks now have commercial lending groups or companies as an adjunct to commercial lending activities.

COMPARISON OF FINANCING SOURCES

Advantages of Financing from International Agencies

- The loans tend to be for longer terms than might otherwise be available.
- The interest rate tend to be less than would otherwise be available. Fixed interest rates may be possible.
- Participation of World Bank or ADB endorses the credit for other potential lenders.
- A co-financing arrangement or a complementary financing arrangement may be possible, whereby commercial bank loans are linked with World Bank or ADB loans, with cross-default clauses.

Disadvantages of Financing from International Agencies

- A lengthy approval process which may delay the project for months or years.
- The fund provided may be in currencies difficult to hedge, and create significant currency risk.
- Availing of financing from International Agencies may force political constraints deterring other development activities in the developing countries.

COMPARISON OF FINANCING SOURCES

Type Lender	Maturity	Rate Offered
Insurance Company, Institutional Investors	Longest	Fixed / Floating
International Agencies, Government Export Financing	Intermediate	Fixed / Floating
Commercial Bank	Most Variable	Floating

Session 3

Project Agreements

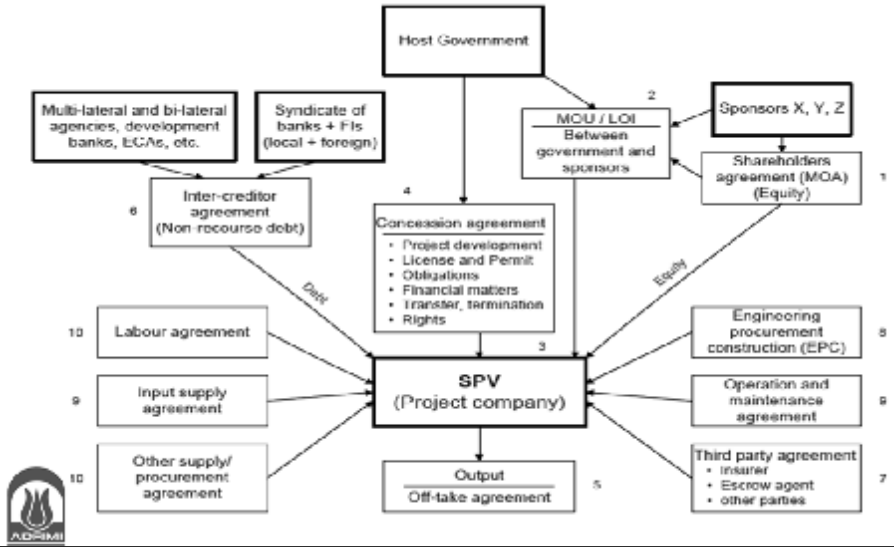
PROJECT AGREEMENTS

- Basic document structure
- Risk and mitigation
- Organizational Documents
- Key agreements
  - Concession agreement
  - Off-take agreement
- Cost based contracts
  - EPC contract
  - Input supply contract
  - O&M contract

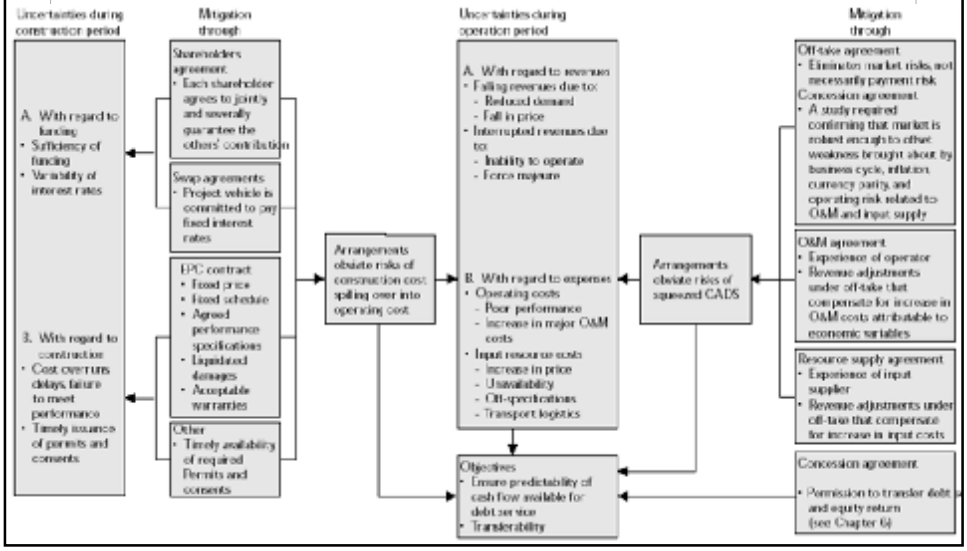
BASIC DOCUMENT STRUCTURE

- Generally, the contractual foundation of a project consists of two classes of agreements:
  - Concession and other Project Agreements; and
  - Finance and Security Documents.
- Concession Agreement with the government forms the basis for other agreements and is the only agreement unique to PPP projects.
  - The Concession Agreement defines the relationship between the public and the private sector, identifies and allocates vital risks and represents an important part of the security documents for lenders.
- All agreements may not be necessary for all projects.

BASIC DOCUMENT STRUCTURE



RISKS MITIGATION BY PROJECT AGREEMENTS



ORGANIZATIONAL DOCUMENTS

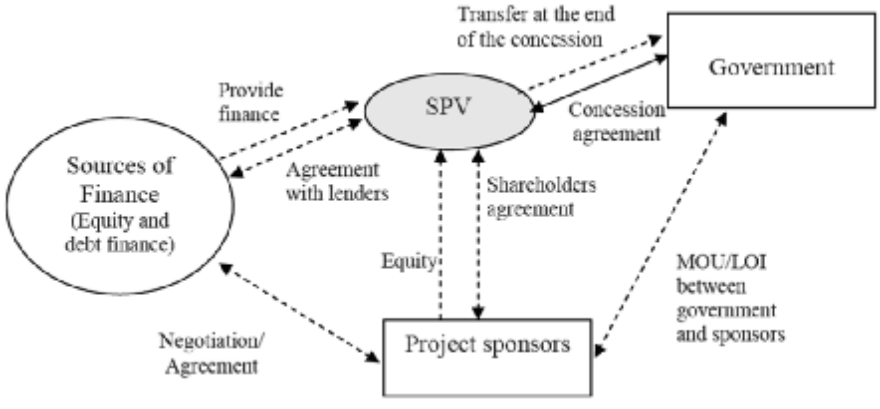
- Documents relating to the constitution of the Project Company
  - Agreements among the JV Partners/Shareholders (Shareholders Agreements, Joint Venture Agreement) for the Project Company and/or the Holding Company(ies).
  - Charter documents of the Project Company and/or the Holding Company(ies).

CONCESSION/IMPLEMENTATION AGREEMENT

- Concession agreements between the government and the private company may be contained in single or multiple documents.

- It is difficult to generalize all possible contents of Concession Agreements as they vary widely due to the following:
  - Difference in legal and regulatory provisions
  - Type of PPP model
  - Nature of involvement of the public sector
  - Implementation arrangements
  - Operational, and various sector specific resource utilization
  - Technological and other matters

BASIC CONCESSION STRUCTURE



CONCESSIONS

- The government defines and grants specific rights to a private company to build and operate a facility for a fixed period of time.
- The government may retain the ultimate ownership of the facility and/or right to supply the services.
- Concessionaire may pay government for the concession rights and the government may pay the concessionaire, which it provides under the agreement to meet certain specific conditions.
- Usually, such payments by the government is necessary to make projects commercially viable and/or reduce commercial risk of the private sector.
- A Special Purpose Vehicle is formed that borrows significant long-term funds from commercial lenders on project finance basis.
- The host country government does not provide a financial guarantee to lenders, nor may the sponsoring private investors.

CONCESSIONS

Pros:

- Private sector bears a significant share of the risks.
- High level of private investment.
- Potential for efficiency gains in all phases of project development and implementation and technological innovation is high.

Cons:

- Highly complex and time consuming to implement and administer.
- May have underlying fiscal costs to the government.
- May require close regulatory oversight.
- Contingent liabilities on government in the medium and long term.

VARIANTS OF CONCESSIONS

Franchise

- The concessionaire provide services that are fully specified by the franchising authority.
- Private sector carries commercial risks and may require to make investment.
- Historically popular in providing urban bus or rail services. Franchise can be used for routes or groups of routes over a contiguous area.

VARIANTS OF CONCESSIONS

Build-Operate-Transfer (BOT)

- The concessionaire undertakes investments and operates the facility for a fixed time period after which ownership reverts back to the public sector.
- The government has explicit and implicit contingent liabilities that may arise due to loan guarantees provided.
- By retaining ultimate ownership, the government controls policy and can allocate risks to those parties best suited to bear them or remove them.
- Concessions for BOT projects can be structured on either maximum revenue share for a fixed concession period or minimum concession period for a fixed revenue share, or a combination of both.
- In addition to equity participation, the government may also provide capital grants or other financial incentives to a BOT project. However, it is also quite common that the government may not have any equity participation.

BUILD-OPERATE-TRANSFER: BANGKOK MASS TRANSIT SYSTEM

- The Bangkok Mass Transit System Public (BTS), the elevated train system in Bangkok, is an example of BOT project.
- The project was implemented under a 30-year BOT concession agreement between the concessionaire and Bangkok Metropolitan Administration (the city Government).

BUILD-OPERATE-TRANSFER (BOT) VS. BUILD-OWN-OPERATE (BOO)

- For a few infrastructure sectors that feature stand-alone projects and high technology obsolescence, "BOO" may be more attractive to both the Govt. and to private investors:
  - Thermal Generating Plants
  - Information & Communications Technology (ICT) projects
- Does the Government really want to bind itself today to inherit a 10-year old ICT system or a 25-year old coal-burning power plant in the future? Technology is likely out-of-date or no longer competitive. Large renewal investments will be certainly be needed.
- A BOO contract is much simpler to write and negotiate than a BOT: Simply delivering services for 20 years, vs. providing services and transferring assets.

OFF-TAKE AGREEMENTS

- Off-take agreements are typically long-term purchase and sale contracts in which a creditworthy purchaser agrees to buy the output of a facility on specific terms over a defined period
- Most common form of an off-take agreement is the Power Purchase Agreement (PPA)
  - A PPA is an agreement for the sale of power (usually, on the basis of "available capacity" and "net electrical output") between the utility and the project vehicle. This structure serves two important functions:
    - It guarantees a market
    - It defines in reasonable detail the rights, responsibilities and obligations of the project vehicle and the purchasing utility

RISK MITIGATION IN AN OFF-TAKE AGREEMENT

Risk	Mitigation
Price, demand, and business cycle	Off-taker agrees to provide the project vehicle with a minimum level of revenue by purchasing each month over the life of the contract: (a) agreed capacity, or (b) a minimum amount of product or service at an agreed price
Too much or too little capacity	Off-taker generally agrees to take this risk.
Industry restructuring	Off-taker and host government are allocated this risk through an IA with the project vehicle.
Inflation and changes in exchange rate	Off-taker assumes these risks by agreeing to index (a) the local and foreign components of output price against an appropriate local and foreign cost index; and (b) output price to reflect the changes in parity between foreign currency
Credit	Where the credit of the off-taker is in question, host government under the IA backstops its payment obligations

OTHER OFF-TAKE AGREEMENTS

- Hell-or-High Water Contract. Stipulates that there are no circumstances regardless of their nature, that excuse the off-taker from paying a specified capacity price.
- Throughput Agreement. Under a throughput, an oil/gas company will be transporting the commodity via pipeline from its source to some destination where it is further treated, or sold to a third party.
- Cost-of-Service Contract. A cost-of-service contract requires each shareholder to pay its proportionate share of monthly project vehicle costs, in return for a contracted share of project's output.
- Tolling Agreement. In a tolling agreement, the project vehicle levies tolling charges for processing raw materials usually owned and delivered by several project sponsor(s).
- Step-up-Provision. A step-up provision obligates all the other purchasers to increase their respective participation, thereby taking up the slack, if one of the other purchasers goes into default.

COST BASED CONTRACTS

- EPC contract
- Input supply contract
- O&M contract

EPC CONTRACT

- EPC contract comprises three different elements:
  - E = Engineering
  - P = Procurement
  - C = Construction
- EPC contract is the single largest component of the capital expenditure of the project.
- EPC Contract Features
  - Turn key
  - Single point responsibility
  - 'On-spec' + 'fixed schedule' + 'fixed price' contract
  - Contractors backup performance obligations with liquidated damages
  - EPC contract would cost approximately 15-20% more than a conventional construction contract

RISK MANAGEMENT IN EPC CONTRACT

Risk	Mitigation
Delay in completion	EPC contractor assumes this risk by agreeing to a fixed schedule for completion of the facility backstopped with LDs
Cost overruns	EPC contractor assumes this risk agreeing to a fixed-price contract
Testing and commissioning	EPC contractor agrees to deliver a fully operational facility according to 'specifications' provided by the project company.
Hidden defects	EPC contractor assumes this risk by agreeing to a stringent "takeover" test. Also, the contractor provides a warranty period.
Contractor's default during warranty period	EPC Contractor agrees to have a certain amount of its contract price, usually 5% to 10%, withheld until the expiration of the warranty period

INPUT SUPPLY CONTRACT

- Executed between input supplier and the project company, whereby
  - Input supplier supplies the raw materials to the project company on a long term basis
- Input supply contract is not needed when:
  - Inputs are widely available
  - Inputs contain little price risk
  - Inputs have no transportation problems

WHAT INPUT?

Projects	Types of input	Input supply agreement required/feasible?
Power	Gas/coal/water/other	??
Toll-road	Vehicles	??
Telecom	Telephone calls	??
Water Treatment	Raw-water	??
Container Port	Containers	??
Gas Pipeline	Gas	??
Solid Waste Treatment	Solid waste	??

RISK MANAGEMENT IN INPUT SUPPLY CONTRACT

Risk	Mitigation
Failure to supply, failure to purchase	Both parties are taking risks in respect of each other. LDs are payable in the event it is unable to perform
Construction of delivery facilities	Normally, the fuel supplier is responsible for construction of delivery facilities. If these facilities are not completed on time, the fuel supplier is liable to pay LDs
Operation of input delivery facilities	Input supplier would be responsible for ensuring that the facilities work properly
Mini-max supply and purchase obligations	Supplier will pay LDs if it fails to supply minimum amount Purchased will pay LDs if it fails to buy minimum amount There is a maximum limit purchaser can buy. Beyond that it has to give notice
Input price fluctuations	Long term fixed price input supply contract subject to some indexations
Input quality specifications	Risks assumed by input supplier

OPERATIONS AND MAINTENANCE (O&M) CONTRACT

- Project company can
  - do O&M
  - enter into O&M with a shareholder
  - negotiate an O&M at "arms' length" with a third party
  - share O&M with others

RISK MANAGEMENT IN O&M CONTRACT

Risk	Mitigation
Enforcement of EPC warranties	O&M contractor assumes this obligation to enforce remedies vis-à-vis the EPC contractor for latent defects during the warranty period
Project performance	O&M contractor assumes the risk to operate the project at optimum performance
Maintenance of permits / consents	This obligation usually belongs to the project vehicle, however lenders prefers to allocate some responsibilities to the operator.
Operating & routine maintenance	The operator is allocated this responsibility and backs it up with LDs
Major maintenance	Manufacturer is usually allocated the cost of major maintenance. If the operator is allocated this risk, it will expect its total compensation package to reflect this additional risk

FINANCE-ABILITY OF PROJECT AGREEMENTS

- At least, three dimensions have to be met for project agreements to be finance-able:
  - The commercial structure of the project must be acceptable as well as deal, sector, country and time specific
  - Project cash flow must have high degree of predictability
  - Major risks must be allocated to appropriate parties and the project vehicle should not be exposed to any residual risk.

Session 4

Finance & Security Documents

FINANCE DOCUMENTS

- Equity Support and Share Retention Agreement
- Common Terms Agreement
- Facility Agreement
- Intercreditor and Security Sharing Agreement
- Accounts Agreement

EQUITY SUPPORT AND SHARE RETENTION AGREEMENT

"In this agreement the Sponsors agree to inject equity in the form of share capital or subordinated loan or a combination of both at the time assumed in the sponsors' financing plan or the lenders' base case. The commitment will cover base equity and standby equity. The Sponsors also agree to retain their shareholding and voting rights in the project company for as long as the foregoing obligations are applicable"

Parties Involved

- Lender/s
- Project Company
- Sponsors

Purposes of the Agreement:

- Firm base equity commitment
- Minimum base equity before first drawdown of loan
- Project completion guarantee
- Contingent equity support
- Shareholders' loan support
- Retention of ownership and voting rights
- Acceleration of base and contingent equity
- Restoration of the facility

COMMON TERMS AGREEMENT

"The agreement sets out all of the general financing terms which are common for all the lenders. The agreement includes common representations and warranties, undertakings and events of default but does not necessarily include the interest and repayment details. Each of the lenders will enters into a separate facility agreement which cross-refers to the common terms agreement and contains the terms specific to individual facilities."

Parties Involved

- All Lenders
- Project Company
- Intercreditor Agent
- Facility Agent (s)(if any)
- Sponsors
- Arranger(s) (if any)

Purposes of the Agreement:

- Simplification and clarification of multi-sourcing of finance
- Common understanding of critical events and key definitions
- Sets out order and conditions of drawdown of loan

GENERIC FEATURES OF COMMON TERMS AGREEMENT

- Identification and Roles of Major Parties
  - Borrower, Sponsor, Lead Arranger, Agents, Account Bank, Consultants, Construction Contractors, Borrower
- Description of the Project
- Budgeted Project Costs, Project Budget
- Funding, Facilities and Purpose
- Availability Period
  - Automatic cancellation,
  - Final drawdown date
- Method and Conditions of Drawdown, Maximum Number of Drawdowns

GENERIC FEATURES OF COMMON TERMS AGREEMENT

- Prepayment
  - Voluntary
    - Minimum, inverse order of maturity, pro rata
  - Mandatory
    - Insurance, LDs, expropriation, termination
- Cancellation of Loan(s)
  - Permitted only if remaining Project Costs do not exceed available funding
  - Illegality of the Lenders, market disruption event, change of control
- Default Interest
- Conditions and Timelines for Project Completion and Financial Completion

GENERIC FEATURES OF COMMON TERMS AGREEMENT

- First Drawdown
  - Instructing group, usually all lenders
    - Corporate and constitutional documents, use of proceeds, finance documents, project and other documents, corporate and legal authorisations, approvals, licenses, consents, equity, security, insurance, all advisers' reports/certificates, financial model, accounts, financial statements, site, process agent, specimen signatures, budget, fees and expenses, representation and warranties, no default, environment matters, confirmation of loan specific condition precedents
- Subsequent Drawdown
  - Instructing group, usually all lenders
    - Representation and warranties, no default, relevant adviser's report/certificate, remaining project costs do not exceed available funding, request with a certificate detailing use of funds, base equity contributions, cost overrun financing, individual loan condition precedents

GENERIC FEATURES OF COMMON TERMS AGREEMENT

- Representations and Warranties
  - Corporate status, powers and authority, enforceability, no conflict, no default, consents, taxes on payments, assets, legals fees, stamp duty, VAT and taxes, immunity, choice of governing law, accounts, proceedings, information, project documents, intellectual property, status of security, insurances, no other business, no force majeure, taxes, budgets, environmental matters, improper payments, share capital, public utility holding company, list of vendors
- General Covenants
  - Provision of information, access, compliance certificates, required consents and approvals, negative pledge, transactions similar to security, financial indebtedness, loans and credits, disposals, change of business, mergers and acquisitions, project works, operation and maintenance, project documents, material contracts, compliance with laws and payments of taxes, environmental matters, share capital, financial covenants, reporting, investments, distributions, year-end, insurance, abandonment, maintenance of security, scope of business, miscellaneous

GENERIC FEATURES OF COMMON TERMS AGREEMENT

- Events of default
  - Non-payment, Breach of Other Obligations, Misrepresentation, Cross default, Insolvency, Insolvency Proceedings, Appointment of Receivers and Liquidators, Creditors' Process, Analogous Proceedings, Cessation of Business, Non-Compliance of Project Documents and Direct Agreements, Illegality etc., Ineffectiveness of Security, Failure to Meet Equity Investment Requirements, Non-Completion, Abandonment, Total loss, Hostile Government Action, Unavailability of Key Insurance, Project Events, Unfunded Cost Overrun, Ratios, Environmental Matters, Material Adverse Change, Construction Contractors

GENERIC FEATURES OF COMMON TERMS AGREEMENT

- Remedies following an Event of Default
  - Cancellation or suspension of the loan commitments
  - Acceleration of the loans
  - Acceleration of base equity and/or contingent equity
  - Enforcement of the security under the Security Documents
  - Enforcement of remedies under the Direct Agreements
  - The giving of notice regarding the payment of insurance proceeds
  - Blocking the Accounts
- Governing Law and Jurisdiction

FACILITY AGREEMENT

A facility agreement is the document in which the lender sets out the terms and conditions under which it is prepared to make a loan available to a borrower. In case of syndicated lending facility agreement sets out the rights and obligations of the lenders and the borrower.

Parties Involved

- Lender/s
- Project Company

Purposes of the agreement:

- Specific definition of various terms
- Operational terms including the amount being borrowed, repayment schedule and interest
- Lender specific reporting requirements
- Transaction-specific terms and conditions including what each party must provide, their responsibilities to each other, what happens if the borrower defaults on the loan and the extent to which the parties to the agreement may change
- Sets out the contract details of the parties, the relationship between the finance parties if there is more than one lender and linking with the common terms agreement

INTERCREDITOR AND SECURITY SHARING AGREEMENT

An agreement among the Lenders that spells out aspects of their relationship with one another and the Project Company, so that, in the event of a problem emerging, ground rules are in place. The agreement sets forth the security sharing arrangements between lenders, enforcement procedures, voting mechanisms, various lien positions and the rights and liabilities of each creditor and its impact on the other creditors, priorities in payments and other issues.

Parties Involved

- Senior Lenders and working capital creditor/s
- Subordinated Lenders (if any)
- The Arranger
- The Facility Agent (if any)
- The Intercreditor Agent (if any)
- The Security Agent

Purposes of the agreement:

- Ranking and security sharing arrangements of the creditors in order of increasing risk
- Roles of the intercreditor agent and security agents
- Payment restrictions applicable before an insolvency event occurs, i.e. not to pay or prepay any of the junior debt

SECURITY SHARING AGREEMENT

Purposes of the agreement:

- Impose Standstill Periods- not to accelerate or commence proceedings for recovery by any of the junior creditor
- Override provisions- in specified circumstances senior creditors decisions supersede decisions of junior creditors
- Subordination upon insolvency, priority of encumbrances, restriction and conditions for amendment of finance documents and transfer.
- Consultation period and procedures for loan acceleration and declaration of event of default
- Sets forth how security proceeds will be shared in the event enforcement
- Specifications of the Lenders, type, date and amount of respective facilities
- Payment restrictions applicable before an insolvency event occurs, i.e. not to pay or prepay any of the junior debt
- Description of the security held by each individual lender
- Voting rights and mechanisms for enforcement, waivers and amendments and general decisions

ACCOUNTS AGREEMENT

An agreement that identifies the accounts permitted to be opened and maintained by the Borrower, details the inflow and outflows allowed from each accounts, role of the Account Bank and cash waterfall mechanisms

Parties Involved

- Lenders
- The Facility Agent (if any)
- The Intercreditor Agent (if any)
- The Borrower
- The Account Bank

Purposes of the agreement:

- Identification of all the accounts to be opened and maintained by the Borrower
- Identification of the Account Bank, their roles and rights in general, towards the Borrower and Lenders and during an event of default
- Permitted inflows to and outflows from each account
- Cash waterfall arrangements before and after an event of default
- General restrictions on the Accounts and their operation mechanics

PRINCIPAL OBJECTIVES OF SECURITY

- Offensive: Provides lenders with rights to:

  (a) Enforce security upon breach by the project company by disposing of collateral to satisfy loans.

  (b) To take over the facility and step-in in order to remedy the default, operate the facility until loans are re-paid or sell to a third party to recover the loans.

- Defensive: Prevents other parties from being secured lenders or override their rights in terms of ranking.

TYPICAL COMPONENTS OF A SECURITY PACKAGE

Security over Sponsor Support	Security over project assets and revenues	Other securities
Equity based commitments • Completion guarantee, or • Injection of base equity, • Injection of additional funds to cure cost overrun • Share retention guarantee **Other** • Pledge of shares • Grant right to transfer shares to a third party • Guarantee for: (a)Uncovered risks, and (b) Termination of concession agreement as a result of breach by the project company.	**Mortgage** • Leasehold/freehold land • Other immovable or fixed property (including structures) **Hypothecation** • Movable assets • Fixed assets • Floating assets **Assignment** • Off-take agreement • Concession agreement • Direct agreements • Insurance(s) • Third party contracts **Lien** • Shares	**Assignment** • Credit authority guarantee to compensate on premature termination of the concession **Letter of credit** • Sponsor • Off-taker • Construction contractor

BASIC RULES OF LEGAL DOCUMENTATION

- Creation and perfection of Finance and Security Documents:

1. All finance and security documents must be supported by a board resolution approving the terms of the loan and authorizing the appropriate personnel to execute the documents.
2. Should be properly executed, stamp duties paid, executed by authorized personnel, witnessed and sealed
3. Should be notarized, filed and/or registered with the relevant authority/authorities (if required).

SECURITY OVER SPONSOR SUPPORT: GUARANTEE

Completion Guarantee

- Sponsors guarantee that they will complete project on time and on schedule.
- Sponsors guarantee that they will deliver when called up an agreed level of base and contingent equity.
- Sponsors guarantee to fund any cost overruns.
- Sponsors guarantee to retain shares for such time period as specified by Lenders

SECURITY OVER SPONSOR SUPPORT: OTHER SUPPORT

Pledge of Shares

- Lenders often require the sponsors/all shareholders to pledge their shares in the project company as security.
- Enables lenders to take control of the project upon default.
- Way of doing it: Lien over shares
- Documents to be obtained along with instrument of lien:
  - Share certificates
  - Power of Attorney to dispose of the liened shares during an event of default
  - Share transfer documents

LEGAL ISSUES WITH PLEDGE/LIEN/EQUITABLE MORTGAGE OF SHARES

- Under certain jurisdictions lenders may have to obtain prior approval, (Direct Agreements for example), of the ceding authority to transfer sponsors' equity participation.
- Certain jurisdictions allow the lenders to replace the project company management as a consequence of having a pledge over the shares.
- Lenders obtain quasi-directors' role upon enforcement. Therefore, incur fiduciary duties.

SECURITY OVER SPONSOR SUPPORT: GUARANTEE

Guarantee for Uncovered Risks

- Lenders often require the sponsors to provide guarantee for certain uncovered risks. (e.g. Implementation agreement termination shortfall)

Guarantee for termination of the concession agreement as a result of breach by the project company

- Sponsors may be required to provide guarantee to repay loans if the concession agreement is terminated as a result of breach by the project company.

Deferral of Payments Due under Supply Contract

- In certain projects the sponsors may be supplier of raw materials, the payment of which are subordinated to debt service.

SECURITY OVER PROJECT ASSETS AND REVENUES: MORTGAGE

- Mortgage of Land
  - Leasehold land - A first priority mortgage over the leasehold land (with prior permission of the lessor) is taken.
  - Freehold land - A first priority mortgage over the leasehold land is taken.
  - Other immovable or fixed property e.g. building, fixtures and all structures on the mortgaged land etc.

In many jurisdictions lenders have the option to create:

A. Simple mortgage over the immovable property; or

B. Equitable mortgage by way of the project vehicle depositing the relevant title deeds with intent to create security interest thereon.

SECURITY OVER PROJECT ASSETS AND REVENUES: MORTGAGE

Legal issues with mortgage

- The Mortgage Deed and corresponding powers of attorney shall have to be registered.
- Under certain legal systems security may not be created over public property particularly assets that belong to the government.
- For leasehold property, no charge for rights of sale may be granted to the Lenders

SECURITY OVER PROJECT ASSETS AND REVENUES: HYPOTHECATION

There are basically two kinds of hypothecation:

1. Fixed Charge : A list of fixed assets (plant, machinery, equipment etc) over which charge will been created is to be included. The borrower cannot dispose off any fixed assets without the consent of the Lenders.
2. Floating Charge: It applies to both present and future floating assets to be acquired or created or received by the borrower. The Borrower is allowed to dispose of or otherwise deal with the floating assets in any manner whatsoever, until an event of default occurs, upon which the charge on the floating assets crystallizes and becomes fixed.

SECURITY OVER PROJECT ASSETS AND REVENUES: ASSIGNMENT

Assignment of project agreements

Example: the concession agreement

Provides for grants and terms of the necessary licenses and permits for project construction and operation

- Lenders require the project company to assign the rights and interests it has under the concession agreement to the creditors as collateral security for loans.
- Assignment of the concession to the lenders enables them to transfer the same to a third party upon default by the project company.

SECURITY OVER PROJECT ASSETS AND REVENUES: ASSIGNMENT

Legal issues with assignment of concession agreement

- Certain jurisdictions do not allow concessionaire to create security interest over the concession itself.
- In order to protect the public interest, the law may require the consent of the ceding authority for the lenders to enforce such rights. Procedure in this regard may be agreed to between the ceding authority and the lenders through a separate agreement. (See *Direct Agreements)*

SECURITY OVER PROJECT ASSETS AND REVENUES: ASSIGNMENT

Assignment of Direct Agreement

Direct Agreements are entered into between the lenders, project company and major counter-parties to the project agreements.

- Objectives:
  1. Acknowledgement and consent by the counter-parties of the assignment of project agreements by the project company to the lenders.
  2. Suspension of counter-parties' rights to terminate project agreements pursuant to a breach by the project company.
  3. Step-in Rights of the lenders
  4. The counter-parties agree to novate the project agreements to a Substitute provided the latter has the necessary technical expertise and financial solvency to operate the facility.

SECURITY OVER PROJECT ASSETS AND REVENUES: ASSIGNMENT

Legal issues with the assignment of license and permits:

- May not be permissible and hence, fresh license/permits may be required to be taken upon enforcement.

SECURITY OVER PROJECT ASSETS AND REVENUES: ASSIGNMENT

Assignment of insurance(s) Lenders require the project company to insure against all risks and perils and assign those insurance(s) to the lenders.

Legal issues regarding Assignment of Insurance Policy:

Assignment may attract high stamp duty. As such, Power of Attorney may be obtained instead enabling the lenders to collect benefits under the insurance policy and lenders made co-loss payees.

SECURITY OVER PROJECT ASSETS AND REVENUES: CHARGE

Fixed and floating charge over project company accounts

- Lenders may take charge over the accounts of the project company.
- Right to set off: Borrower grants the right to the lenders in case of default to set off its liabilities from accounts where it has funds.
- Lenders can control the cash flows so that their use can be prioritized.
- The charge enables the lenders to take control of the charged accounts upon breach by the project company.

OTHER SECURITY: ASSIGNMENT

Assignment of L/C

Sponsor

- Lenders may require the sponsors to back up their obligations under the finance documents by a stand by letter of credit, bond or guarantee from a credible third party. Upon breach by the sponsor the lenders can encash such letter of credit or bond, or enforce the guarantee.

Construction Contractor(s)

- Construction contractor(s) may be required by the project company to provide performance security covering a portion of the contract price by an acceptable banks. Lenders often require the project company to provide a letter of credit covering the same amount, which the lenders can encash upon breach by the project company.

APPENDIX: DEFINITION

Mortgage

A mortgage is an interest in land created by a written instrument providing security for the performance of a duty or the payment of a debt (Black's Law Dictionary)

"A Mortgage is the transfer of an interest in specific immovable property for the purpose of securing the payment of money advanced by way of loan, an existing or future debt, or the performance of an engagement which may give rise to a pecuniary liability."

APPENDIX: DEFINITION

Hypothecation

To pledge property as security or collateral for a debt. Generally, there is no physical transfer of the pledged property to the lender, nor is the lender given title to the property; though he has the right to sell the pledged property upon default. (Black's Law Dictionary)

APPENDIX: DEFINITION

Assignment

Assignment of rights and interests that the project company has under the project agreements to the creditors as collateral security for loans.

APPENDIX: DEFINITION

Pledge

Transfer of a personal property to another as security for payment of debt or other obligations.

APPENDIX: DEFINITION

Charge

A charge comes into existence when property of one person is by act of parties or operation of law made security for the payment of money to another and the transaction does not amount to mortgage [14 DLR (SC) 119]. It entitles the creditors to follow the property for the satisfaction of debt upon breach.

The difference between a legal mortgage and a charge is very subtle. An intention to create a charge has to be gathered from the terms of the documents.

- Fixed charge - Charge that relates to specific assets over which the lenders have the requisite degree of control.
- Floating charge - A continuing charge on the assets of the company creating it, but permitting the company to deal freely with the property in the usual course of business until the security holder shall intervene to enforce its claim. (Black's Law Dictionary).

ADFIMI – BIM JOINT SEMINAR

"INTERNATIONAL PROJECT FINANCE & CASH FLOW MODELING"

TEHRAN, IRAN, 17-18 DECEMBER 2014

NAZMUL HAQUE
Director (Investment) & Head of Advisory, IDCOL

Session 5

Financial Modeling

FINANCIAL MODELING

- Purpose and uses of Financial Model
- Developing a Financial Model

PURPOSE AND USES OF FINANCIAL MODEL

- Definition: Financial Model
- The Need for Financial Model
- Prepared by, Purpose and Users
- Financial Model in Different Stages of Project Life
  - Pre-proposal Stage
  - Project Document Negotiations
  - Raising Finance
  - Construction and Operation Period

PURPOSE AND USES OF FINANCIAL MODEL

Definition: Financial Model

- A Financial Model can be defined as a computer driven spreadsheet that processes a comprehensive list of input assumptions and provides outputs that reflects the anticipated real-life interaction between data and calculated values for a particular project.

- A financial model that is constructed on a computer-driven spreadsheet will incorporate discounted cash flow (DCF) analysis. Properly designed, such a tool is capable of sensitivity analysis.

PURPOSE AND USES OF FINANCIAL MODEL

The Need for Financial Model

- Cash flow based finance
  - Raising of finance for a new project secured against future revenues
- Analysis of the projected cash flow from financial close to the end of the concession or plant life
- Establishing a finance structure that is sustainable by the project

PURPOSE AND USES OF FINANCIAL MODEL

Prepared by, Purpose and Users

- Prepared by
  - Sponsor
- Purpose
  - Arranging debt and equity funding
  - Monitoring project performance and adherence to loan covenants
- Users
  - Sponsors
  - Equity investors
  - Lenders
  - Governments(in some cases)

PURPOSE AND USES OF FINANCIAL MODEL

Financial Model at Different Stages of Project Life

- There are four (4) different stages in a project life during when a financial model is put in use.
  - Pre-proposal stage
  - Project document negotiations
  - Raising finance
  - Construction and operation period

PURPOSE AND USES OF FINANCIAL MODEL

Pre-proposal Stage

- The model is in rudimentary form
  - Sponsor targets a hurdle rate
  - Uses rule of thumb for costs
  - Derives revenue
- Use the model to prepare tariff/price proposal
- The model is used to arrive at GO-NO GO decision, i.e., whether the given project should be pursued further
  - Convincing equity participants to invest their money and proceed with the project

PURPOSE AND USES OF FINANCIAL MODEL

Project Document Negotiations

- Use the model for negotiations of project documents
  - During this stage, the model undergoes significant changes, e.g., instead of simplified assumptions, the model reflects the outcome of negotiations
- Sponsors use the model to
  - Prepare Debt Offering Memorandum

PURPOSE AND USES OF FINANCIAL MODEL

Raising Finance (1/2)

- Sponsors model is adapted into a lenders base case by the Modeling Bank
  - Measuring borrowing capacity of a project
  - Determining the requirement of a subordinated lender
- Determination of optimum financing structure based on:
  - Debt to equity ratio
  - Debt service coverage ratio (DSCR), loan life cover ratio (LLCR), and project life cover ratio (PLCR)
- Negotiation of loan terms: tenor, grace, repayment structure, hedging

PURPOSE AND USES OF FINANCIAL MODEL

Raising Finance (2/2)

- Conduct sensitivity and scenario analysis
- Negotiating the term sheet
- Determining the need for credit enhancements
- Agree upon a final version of financial model by all parties before financial close
- Audit of the agreed upon model by an independent auditor
- Use the audited model to monitor the adherence of loan covenants

PURPOSE AND USES OF FINANCIAL MODEL

Construction and Operation Period

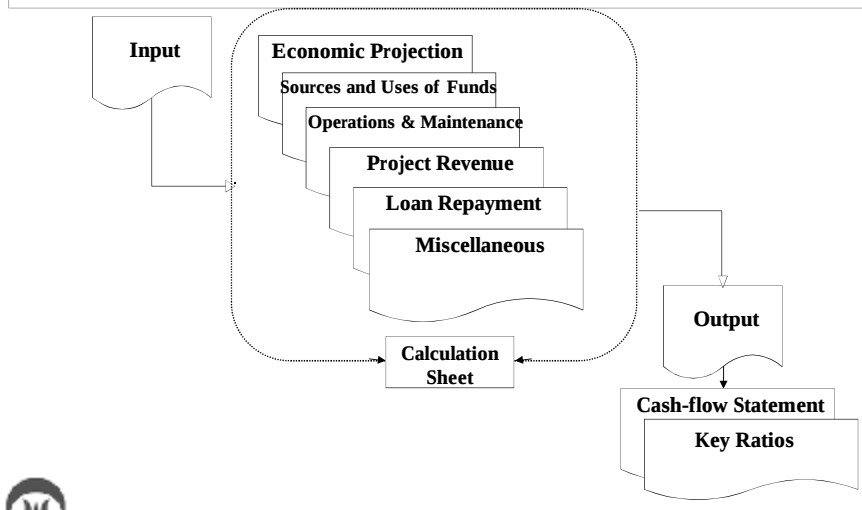
- Financial close
  - Record disbursement and equity infusion
- Construction period
  - Monitor impact of potential cost-overrun on DSCR and LLCR
- Operations Period
  - Lenders use financial model as a monitoring instrument, Specific uses include:
    - Approval of loan;
    - Annual budget;
    - Adherence of loan covenants;
    - Determining when to call a dividend stop; and
    - Early warning of event of defaults.

DEVELOPING A FINANCIAL MODEL

Golden Rules to be Remembered

- ONE Model
- Data in One Place
- Consistent Formula
- No Circularities
- Consistent Timeline

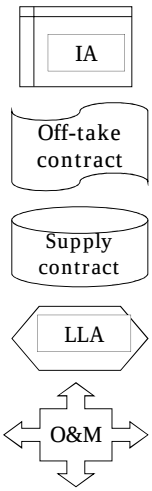
ARCHITECTURE OF A FINANCIAL MODEL



INPUT WORK SHEET

- Includes basic information such as
  - Project Timeline
  - Economic data
  - Technical data
  - Capital cost
  - Financing terms
    - Debt
      - Amount, tenor, grace, interest rate, loan type, repayment structure, fees, etc.
    - Equity
      - Amount, targeted return on equity (ROE)
  - Operating data
  - Tax and accounting data
- Should contain all numeric input to the model.
- Inputs should be grouped into similar categories

SOURCES OF INFORMATION FOR INPUT WORK SHEET



Overall arrangements with the government including fiscal incentives

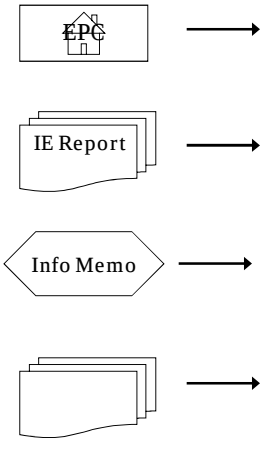
Tariff, incentives and penalties, technical information

Agreed fuel price, technical Information about fuel etc.

Lease rate and arrangement

Cost related to operating & Maintaining the plant during the concession term

SOURCES OF INFORMATION FOR INPUT WORK SHEET



Cost of main plant & equipment, other capital costs, expenditure profile etc.

Verification of:
- Appropriate technology
- Capital & operating cost
- Project viability

Other necessary information to be supplied by the sponsors

International journals, government publications, publications of world bank, IMF,IFC etc.

CALCULATION WORK SHEET

- Contains formulas only (exception occurs)
- Be consistent in formula and timeline
- Be consistent in units (thousands or millions)

CALCULATION WORK SHEET

Calculation Sheets… Economic Projection

- Inflation rate projections over project life
  - Forecast of Foreign Inflation Index (FII)
  - Forecast of Local Inflation Index (LII)
- Exchange rate projections over project life
- For a project with off-take agreement, these projections are used to adjust revenues as well as some of the operating costs.
- Economic data can be utilized to determine the revenue and costs and hence, profitability in real terms for a project with market risks.

CALCULATION WORK SHEET

Calculation Sheets… Sources and Uses of Funds

- Uses of funds
  - Detail costs of various components and their timing
- Sources of funds
  - Include drawdown profile of debt and equity
- Based on the above, followings are computed:
  - Interest during construction (IDC)
  - Commitment fees
  - Other fees, e.g., monitoring fees, if any.

CALCULATION WORK SHEET

Calculation Sheets… Operation and Maintenance (O&M)

- Fixed O&M cost
  - Wages
  - Fixed maintenance
  - Spare parts
  - Insurance
  - Other general & administrative
- Variable O&M cost
  - Input, e.g., fuel, cost
  - Other variable operating costs

CALCULATION WORK SHEET…..DEBT SERVICE

- Amount
- Tenor
- Grace (no principal repayment are made)
- Interest Rate
  - Base interest rate
  - Spread
  - Cap & Floor
- Fees
  - Up-front fees
  - Commitment fees (based on the undrawn balances)
  - Agency fees (based on the outstanding balances)
  - Monitoring fees (based on the outstanding balances)
- Loan Type
  - Senior loan
  - Subordinated loan
- Payment Profile
  - Annuity payment
  - Level principal

CALCULATION WORK SHEET

Calculation Sheets… Miscellaneous Sheets

- Depreciation and amortization
- Working capital
- Debt service reserve
- Major Maintenance
- Other - technical service payment (if any)

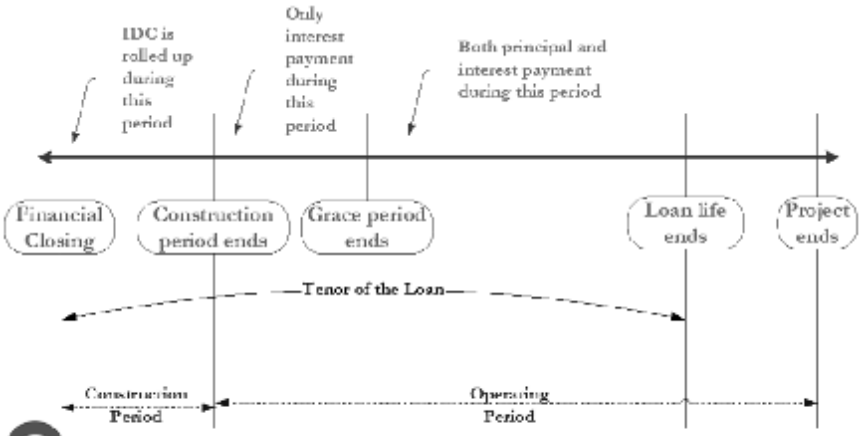
OUTPUT WORK SHEET

- Cash Flow Statement
- Profit and Loss Account
- Balance Sheet
- Profitability Ratios
  - Return on assets (ROA)
  - Return on equity (ROE)
- Coverage Ratios
  - Debt service coverage ratio (DSCR)
  - Loan life coverage ratio (LLCR)
  - Project life coverage ratio (PLCR)

SENSITIVITY ANALYSIS

- Changes in
  - Project cost
  - Financing terms (e.g. interest rate, tenor/grace)
  - Operating cost components
  - Concession period
  - Construction period: draw down
  - Exchange rate and inflation parameters

TYPICAL PROJECT CYCLE



INTRODUCTION TO MS EXCEL

- Defining Cells
- Depreciation Schedule
- Present Value Annuity
- Amortization Schedule
- IF Function
- Goal Seek Function

Session 6

Important Concepts of Financial Model

IMPORTANT CONCEPTS OF FINANCIAL MODEL

- Construction of both annuity and level debt type debt service profile
- Concept of 'Grace' period
- Calculation of different fees such as up-front fee, commitment fee, monitoring fee etc.
- Fixed and Variable Interest Rate calculation
- All-in-rate calculation
- Using logical functions
- Minimum, Maximum, Average and Rank
- E-function
- NPV, IRR, MIRR, WACC
- Switch, Transpose

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 1

- Construction of both annuity and level debt type debt service profile

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 2

- Concept of 'Grace' period

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 3

- Fixed and Variable Interest Rate calculation

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 4

- Calculation of different fees such as up-front fee, commitment fee, monitoring fee etc.

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 5

- All-in-rate calculation

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 6

- Logical Function "IF" and Conditional Operators "AND()", OR()"

Syntax

- IF (logical_test, value_if_true, value_if_false)
- AND (logic 1, logic 2, [logic 3]...)
  - Returns the value TRUE if all logics are met, otherwise returns FALSE
- OR (logic 1, logic 2, [logic 3]….)
  - Returns the value TRUE if any of the provided logics is met, otherwise returns FALSE

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 7

- "SUM", "SUMPRODUCT", "SUMIF", "AVERAGE" and "AVERAGEIF" Functions

Syntax

- SUM (value 1, value 2, [value 3]…)
  - Basic summation of values
- SUMPRODUCT (array 1, array 2, [array 3]...)
  - Returns the sum of the product of corresponding arrays
- SUMIF (range, criteria, [sum range]….)
  - Used for summation of items within a group meeting required criteria
- AVERAGE (value 1, value 2, [value 3]…)
  - Used to find average of group of values
- AVERAGEIF (range, criteria, [average range])
  - Used to find the average of items within a group which meet req. criteria

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 8

- "Minimum", "Maximum", "Rank" Function

Syntax

- Min (value1,value2, ...)
- Max (value1,value2, ...)
- Rank (number, reference, order)

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 9

- The "Edate", "Eomonth" Function

Syntax

- Edate (Start Date, no of months)
- Eomonth (Date, no of months)

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 10

- The "NPV" Function

Net Present Value (NPV)

- Difference between the projects present value of financial inflows and financial outflows

Accept a project if

- NPV > 0
- In case of more multiple projects having positive NPVs, accept the project with highest positive NPV

Syntax

- NPV(rate,value1,value2, ...)
- Rate is the rate of discount over the length of one period.
- Value1, value2, ... are cash flows representing the payments and income.
- Value1, value2, ... must be equally spaced in time and occur at end of each period.
- NPV uses the order of value1, value2, ... to interpret the order of cash flows. Be sure to enter your payment and income values in the correct sequence.

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 11

- The "IRR" and "MIRR" Function

Project Internal Rate of Return (IRR)

- That discount rate at which the NPV = 0, i.e. financial inflows = financial outflows
- Outflows: total project cost
- Inflows: operating income

Accept a project if

- IRR > Cost of Capital
- In case of contradictory results between NPV and IRR, accept NPV decision.

Syntax

- IRR(value1,value2, ...)
- Value1, value2, ... are cash flows representing the payments and income.
- Value1, value2, ... must be equally spaced in time and occur at the end of each period.

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 11 (Continued)

- The "IRR" and "MIRR" Function

Modified Internal Rate of Return (MIRR)

- Similar concept as IRR
- Used when:
  - Multiple change of signs occur in net cash flows over the life of a Project
  - Financing rate and reinvestment rate is different

Accept a project if

- MIRR > Cost of Capital

Syntax

- MIRR(value1,value2, ..., Finance Rate, Reinvestment Rate)
- Value1, value2, ... are cash flows representing the payments and income.
- Value1, value2, ... must be equally spaced in time and occur at the end of each period.
- Finance Rate is the cost of capital
- Reinvestment Rate is the rate at which cash inflows from the Project can be reinvested

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 12

- Weighted Average Cost of Capital ("WACC")

- The cost of capital for a project is the minimum risk-adjusted return required by the shareholders of the firm for undertaking that project.
- The cost of equity capital and debt can be calculated individually and then combined into an overall cost of capital, known as the weighted average cost of capital ("WACC").
- The proportions of debt and common equity, along with the component of costs of capital, are used to calculate a firm's WACC.
- WACC = $w_d k_d (1-T) + w_s k_s$
  - w_d represents the percentage of debt in the capital structure.
  - $k_d (1-T)$ is the after-tax cost of debt. After-tax cost of debt is considered since interest is tax deductible.
  - w_s represents the percentage of common equity in the capital structure.
  - k_s is the cost of common equity.

Example

IMPORTANT CONCEPTS OF FINANCIAL MODEL

Learning Objective 13

- The "Switch" and "Transpose" Function

Switch

- Syntax: Choose (Index number, value 1,value2….)

Transpose

- Converts a vertical range of cells to horizontal ones or vice versa
- Syntax : Transpose (array)

Example

Session 7

Developing a Financial Model

WORKING EXAMPLE 1

Using 12% discount rate, calculate the levelized tariff for each bidder and rank them accordingly.

Year	Total Tariff (dollar/liter)		
	RUPSA	JAMUNA	PADMA
1	0.030	0.056	0.036
2	0.030	0.054	0.036
3	0.038	0.053	0.036
4	0.038	0.052	0.036
5	0.037	0.050	0.036
6	0.036	0.049	0.046
7	0.035	0.048	0.045
8	0.034	0.046	0.044
9	0.034	0.045	0.043
10	0.033	0.044	0.041
11	0.032	0.042	0.040
12	0.031	0.041	0.039
13	0.022	0.039	0.037
14	0.022	0.026	0.036
15	0.022	0.026	0.035

Solution

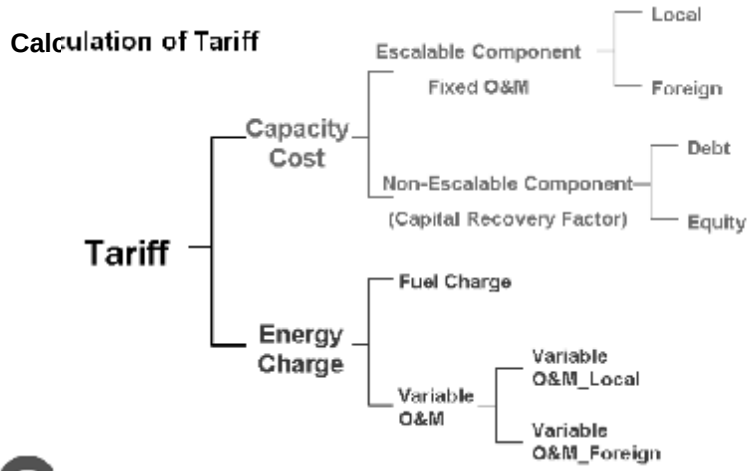
WORKING EXAMPLE 2

Borrowing Capacity Measurement

Using Present Value ("PV") and Loan Life Cover Ratio ("LLCR"), we can estimate the maximum senior loan borrowing capacity of any project.

Example

WORKING EXAMPLE 3



Example

Prepare for a

QUIZ

SESSION 8

Case Study: Poland's A2 Motorway

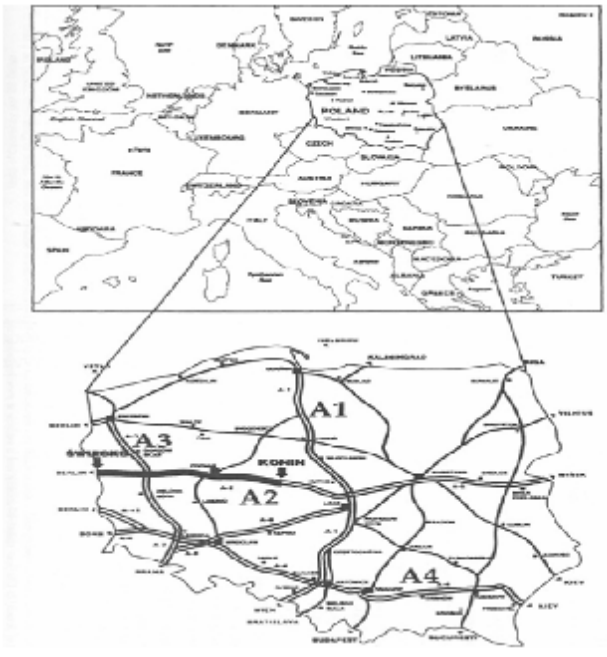
POLAND'S A2 MOTORWAY

- The Project
- Poland and the toll motorway's act
- The A2 Motorway Project
- Project Structure: Parties and Agreements
- The Concession Agreement
- Design, Construction and Financing
- Operations
- Insurance Arrangements
- Financing Plan

POLAND'S A2 MOTORWAY

THE PROJECT

- AWSA, a consortium of Polish and Western European firms, had won an exclusive concession to build and operate a major segment of the proposed A2 Motorway, the first private toll road in Poland.
- When complete, the motorway would be part of the Paris-Berlin-Warsaw-Moscow transit corridor and would eventually become part of the €30 billion Trans-European Network, a modem transportation system linking EU member countries.
- The project entails a concession under BOT model to build and operate a major segment (254 km) of the proposed A2 Motorway.
- The project was a part of the Polish Government's program of upgrading and expanding the country's transportation infrastructure.
- The challenge of this project was its size, setting (Poland) and lack of precedents. None of the principal parties, including the government, had any significant experience in structuring project of this size.



2 MOTORWAY

POLAND'S A2 MOTORWAY

POLAND AND THE TOLL MOTORWAYS ACT

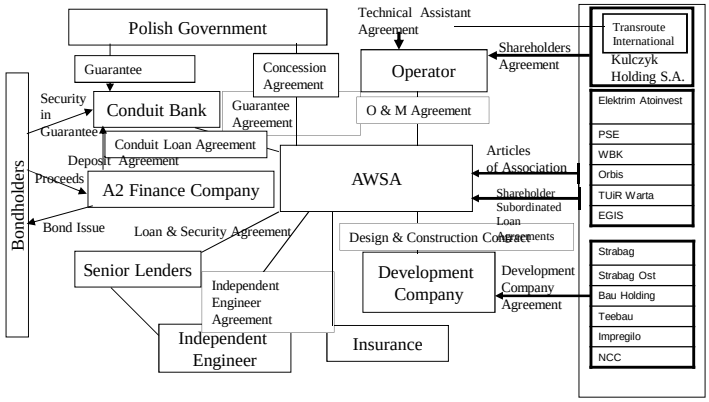
- Poland provided a natural land bridge between Eastern and Western Europe. With a land area of 128,000 square miles and a population of some 39 million people, it was the largest of the former Soviet Union satellite countries in Central Europe.
- Poland's GDP per capita of $7,270 still lagged behind that of other Central European countries like Hungary ($9,020) and the Czech Republic ($1l,300), and remained far behind that of European Union (EU) members.
- Government approved the construction of a 2,600km tolled motorway system in September 1993, which consisted of four main routes, two running east-west (the A2 and A4 motorways) and two running north-south (AI and A3).
- Government hoped that private enterprise would provide a substantial fraction of the estimated US$ 10 billion cost under the "build-operate-transfer" (BOT) model.
- The Toll Motorways Act of 1994 authorized the government to grant concessions on a competitive tender basis. The Act also authorized the government to guarantee financing for up to 50% of the total cost, create a new government agency to oversee the program, and take land for the motorways.

POLAND'S A2 MOTORWAY

THE A2 MOTORWAY PROJECT

- The government selected the A2 Motorway as the first concession. The motorway would run from the German border at Swiecko, though the cities of Poznan and Warsaw, to Belarus.
- Like much of Poland, the route was predominantly farmland with rolling hills and plains, terrain that presented few obstacles to highway construction.
- Selection of the A2 to lead off the motorway program was consistent with the fact that Germany and Russia were two of Poland's largest trading partners. Germany alone accounted for almost one-third of Poland's exports and 25% of its imports.
- AWSA decided that the A2 would be an "open" toll road, which meant that tollbooths would be located along the main route, because it was cheaper to build and operate, and minimized government involvement.

PROJECT STRUCTURE: PARTIES AND AGREEMENTS



POLAND'S A2 MOTORWAY

THE CONCESSION AGREEMENT

- In 1997, the government awarded a 30-year BOT concession to AWSA through a competitive tender process for the western portion of the A2, for a fee of €10 million.
- AWSA was owned by 10 Polish firms with diversified commercial interests, such as hotels and tourism, finance, power transmission, insurance, and private equity investors owned 77% of the company. Western European firms, engaged primarily in heavy construction, owned the other 23%.
- The concession application specified a phased plan of construction which contained three roughly equal sections with sequential completion deadlines. AWSA was obligated to finish Phase 1 within 6.25 years after financial close and had until December 2007 to finalize financing for Phase 2 or the government could reassign that concession to another firm.
- The government was responsible for acquiring title to the land and transferring it to AWSA under a long-term lease within six weeks of financial close. Delivery of the lease, which carried annual fee of €1 million, was a condition precedent for release of construction fund. Although the government needed rights to more than 5,000 properties, it was confident it could deliver on time.

POLAND'S A2 MOTORWAY

THE CONCESSION AGREEMENT (cont.)

- AWSA was responsible to get the local permits required for construction and operation, but the government agreed to support these efforts and to compensate AWSA in the event there were delays due to government authorities.
- The government had the right to terminate the concession for "cause", such as failure to commence or complete work by certain deadlines, or failure to make required payments to the government. If the government did terminate for cause, it would assume ownership and operation of the concession. All the financing would remain in place, and toll revenues would remain dedicated to debt service. The government had also the right to terminate in the public interest, without cause. In this case, it was obligated to compensate AWSA for the cost of fully retiring AWSA's debt obligations and for the net present value of the cash flow distributions that would have been made to shareholders had the concession not been cancelled.
- The government was entitled to receive 20% of distributable cash flow once the shareholders had received a cumulative real return of 10% or more on their invested capital, and 50% once they had received a return of 15% or more.

POLAND'S A2 MOTORWAY

DESIGN, CONSTRUCTION, AND FINANCING

- AWSA expected to sign a fixed-price design and construction contract for Phase 1 with a new special-purpose joint-venture company owned by several AWSA shareholders with extensive construction experience.
- The design and construction costs for Phase 1 had been fixed at €16 million and €622 million, respectively. The Euro denominated contracts were "turnkey," ensuring AWSA to begin commercial operation on a specified date.
- The contracts provided for a 15% advance payment, with the remainder to be paid in monthly installments. An independent engineer retained by AWSA, but reporting to the government and the senior lenders, would monitor construction and certify completion prior to each monthly disbursement.
- Phase 1 construction would begin in Kanin and had a scheduled opening date of July 2002. The second section involved construction of a road parallel to national Route 2 and extending to a bypass around the city of Poznan. It was scheduled to open in 2003. Construction of the Poznan Bypass, a toll-free road, was the government's responsibility. The third and final section, parallel to national Route 2, would continue westward from the Poznan Bypass to Nowy Tomysl and would open in late 2005.

POLAND'S A2 MOTORWAY

DESIGN, CONSTRUCTION, AND FINANCING (cont.)

- By staging construction, the project could maximize early revenue capture. Early road usage would also produce data that would demonstrate credibility of traffic projections.
- Besides guarantee from shareholders, construction contractor's performance was backed by usual performance bonds covering the 15% advance payment, performance under the contract up to €31 million and work defects. A latent defects bond covered 5% of the contract price during construction: which was then reduced to 2.5% at completion of each section for the next for three years.
- The contractor agreed to pay AWSA liquidated damages for each day of delay beyond the specified completion date. Maximum damages were set at 5% of the contract price for each segment, an amount equal to roughly one year's projected toll revenues.
- If a force majeure event or government action caused a delay, then an insurance policy or the government would compensate AWSA subject to a maximum annual loss of €650,000. The government also agreed to compensate AWSA for delays or increased costs caused by the discovery of archaeological or hazardous materials.
- Two independent consulting firms had assessed the A2's environmental impact and concluded that it would meet Polish environmental standards.

POLAND'S A2 MOTORWAY

OPERATION

- An Operating Company (OC), would operate and maintain the motorway under a l0-year renewable contract. Owned by three AWSA shareholders, the OC agreed to manage and maintain the motorway in exchange for a fixed annual fee paid in Polish zloty. Although this contract covered routine maintenance, AWSA remained responsible for heavy maintenance such as resurfacings. The first resurfacing, scheduled for sometime between 2011 and 2015, would cost approximately €43 million.
- Motorway revenue would come primarily from tolls, though AWSA would also receive a small amount of revenue from selling sub concessions to operate service areas (e.g., petrol stations, roadside restaurants, and eventually hotels).
- Toll revenue would depend on many factors, including the strength of the regional economies, international and local trade patterns, and alternative transportation routes.
- Over the past six years, independent consultants had produced three traffic studies: one for the government in 1994 prior to the concession tender process, one for AWSA in 1996 as it prepared to bid for the concession, and a third done by Wilbur Smith & Associates (WSA) in 1997, as part of AWSA's effort to finance Phase-I. The AWSA study, which was updated in 1999, contained both traffic and revenue forecasts, and formed the basis for AWSA's financial projections.

POLAND'S A2 MOTORWAY

OPERATION (cont.)

- Traffic growth on the existing Route 2 had grown at 6% annually over the last five years.
- WSA forecast that daily traffic would increase from 7,600 vehicles per day when the first section of Phase 1 opened in 2002 (approximately 50% of the 12,000 to 18,000 vehicles per day currently using national Route 2) to an average of 20,000 vehicles per day on each of the three sections by 2022. Whereas WSA assumed that the A2 would capture 50% of the traffic, an analyst from Standard & Poor's reiterated the concern: "newly tolled facilities often face traffic levels as much as 50% below initial forecasts."
- Concession agreement contained commitments by the government to generate satisfactory traffic volume. For example, the government agreed to complete the Poznan bypass and compensate AWSA for completion delays, not to build/improve any competing road, not to impose tolls on feeder roads, and to maintain the feeder roads.
- With regard to toll levels, the concession agreement gave AWSA the right to set tolls, but limited both the initial and life-of-concession maximum tolls by class of vehicle.
- Although the forecasted toll revenues reflected a great deal of data and sophisticated computer analysis, some level of traffic risk was un avoidable. AWSA set the initial tolls at approximately 10 zloty (US$2.50) per 50 km.

POLAND'S A2 MOTORWAY

INSURANCE ARRANGEMENTS

- Acting with the advice of its insurance advisor Willis, AWSA arranged for commercial insurance coverage as required by the concession agreement.
- During construction, there was all risk coverage for property damage up to the full design and construction cost ((US$ 667 million), declining to US$100 million per event post completion. Covered risks included broadly defined force majeure events such as explosions, epidemics, contamination, floods, war, revolution, and riots. Insurance for lost profits due to delay in completion was set at 30 days' projected gross revenues.
- After completion, business interruption insurance would cover revenue losses for up to 12 months. Finally, third-party liability insurance was US$ 50 million throughout the concession.

POLAND'S A2 MOTORWAY

FINANCING PLAN

- Total estimated cost for Phase 1 was €934 million.
- AWSA's financing plan was based on a model created by Deutsche Bank. The principal inputs to the model were the traffic and revenue forecasts: the construction and operating costs were less critical because they would be fixed contractually.
- The theory underlying the financing plan was to maximize the use of senior debt, subject to maintaining a minimum debt service coverage ratio (DSCR) of 1.5 times under the Base case revenue forecast.
- According to the plan, funding would come from three major sources: €242 million from commercial banks in the form of a senior secured project loan: three tranches of zero coupon bonds yielding proceeds of €266 million (with a face amount at €800 million); and €235 in subordinated debt and equity from AWSA shareholders
- Because the loan rate was based on a spread over six-month LIBOR-the spread increased from 180 bp to 235 bp over time-the bankers wanted AWSA to use interest rate swaps to fix the rate.
- Senior debt principal payments varied depending on operating cash flow and created a final maturity that ranged from 13 years to15 years.

POLAND'S A2 MOTORWAY

FINANCING PLAN (cont.)

- The minimum principal payments were set to be consistent with a 1:15X debt service coverage ratio under a downside scenario where traffic volume was 30% below Base Case scenario.
- The mezzanine debt, the zero coupon bonds, accrued interest based on an effective interest rate of between 7% and 9% p.a.-the exact rate would depend on the specific maturity, currency (U.S. dollars or Euros), and current market conditions at the time of launch. The bonds would mature by 2014, the longest possible maturity available in the zero coupon market according to the investment bankers. In addition, the bonds would be backed by a guarantee from the Polish government for up to €800 million in maximum future value terms.
- Finally, shareholder capital came in the form of equity and deeply subordinated debt. Like the mezzanine debt, the subordinated debt did not pay cash interest. In fact, cash interest payments to shareholders were prohibited prior to repayment, defeasance, or cash collateralization of the bonds. This restriction meant that under the base case financial projections, the earliest interest payments to shareholders would not occur until 2018, and the shareholder loans would not be paid off until 2026.

POLAND'S A2 MOTORWAY

FINANCING PLAN (cont.)

- The financing documents required AWSA to have cash reserve in lender-controlled accounts for capital expenditures, heavy maintenance: and debt service.
- A cash "waterfall" mechanism in the concession agreement spelled out how toll revenues would be allocated. The funds would be disbursed to pay the following obligations in order of priority: (a) current operating expenses; (b) capital expenditure and maintenance reserve accounts; (c) current interest and principal payments on senior debt; (d) senior debt service reserve account; and (e) all remaining cash to the zero coupon bond sinking fund.
- Because this was the first major project financing in Poland, there were few precedents to guide the lawyers. They decided the senior debt contracts would be governed by U.K. common law. However, because the lenders' collateral and AWSN's principal assets were in Poland, enforcement of the lenders' rights would have to run through Polish courts and would be subject to Poland's civil law system. Joining disparate legal systems created discrepancies that had to be resolved. For example, Polish law did not allow interest on interest in default situations.

POLAND'S A2 MOTORWAY

WHAT TO DO?

- List the major project agreements and Identify the key risks to the project that have been allocated to these project Agreements. List down and analyze the mitigation measures.
- List the finance and security documents and explain how risks have been allocated in these? As a potential lender, are you happy with the arrangement?
- Identify the key revenue components and make a revenue projection? Explain whether the revenue projection is conservative.
- Explain the financing plan and develop the debt repayment profile.