

# Distinguishing financial features of infrastructure projects

- Huge negotiation costs.
- Long gestation.
- Massive investment.
- Restraint on charging economic user fees or unwillingness of users to pay the same.
- Motive: spillover benefits over a long period.
- Promoters/sponsors: Usually Central/State Governments/civic bodies/public corporations.

# Risks associated with infrastructure projects

- Cost and time overruns.
- Legal Risks.
- Overestimation of demand.
- Political/Regulatory risks.
- Financial risk.
- Environmental/ecological concerns.

# Infrastructure and private sector participation

- Bloating fiscal deficits and other expenditure priorities are creating hurdles for governments in fulfilling their conventional responsibility of providing infrastructure. Meanwhile the demands for infrastructure, be it power, rail network, highways, water supply, sanitation, telecom and others, in a growing economy go on rising...
- Resources from multilateral agencies and other aid agencies are limited.
- Past debt crises and capital adequacy requirements are constricting bank lending to infrastructure.
- The performance of the public sector in implementing and operating infrastructure projects has been **generally** below par.
- Loss-ridden and poorly operated state-owned utilities frequently attract public criticism and are unable to raise tariffs due to political considerations or unsatisfactory service delivery.
- Private sector participation has become essential to provide the necessary financing and project management expertise in infrastructure development.

# Risk mitigating measures

- Alternative modes of private-sponsor participation

<b>Private sector participation</b>			Government involvement
BOO	<b>BOT</b>	BOLT	<b>Wholly government controlled</b>

## The case for private investment:

1. Augments the resource pool.
2. Use of state-of-the-art technology.
3. Time-bound implementation and efficient management.

# Build-Operate-Transfer (BOT)

- This approach can mitigate many of the risks associated with infrastructure projects to a level acceptable to private parties
- It assumes that profits generated by the project are commensurate with the risks. Such matching is vital to attracting private sector investors in infrastructure projects
- Projects suitable for using the BOT arrangement generally have the following characteristics:
  1. Regular and reliable cash flows
  2. A long economic life
  3. Strong government support

# Factors contributing to successful BOT infrastructure projects...1

- Government support.
- Reasonable division of risks.
- Minimum credit standards.
- Competition in BOT.
- Satisfactory returns.
- Reputed project sponsor.
- Suitable project size.
- Fair deal.
- Careful drafting of documents.
- Tariff determination.

# Factors contributing to successful BOT infrastructure projects...2

- **Government support:** A favourable legal and institutional framework combined with performance guarantee of the public utility's obligations.
- **Division of risks:** Project completion risks, market risks, foreign exchange risks, operational risks and force majeure risks, including adverse political actions.
- **Minimum credit standards:** An initial credit enhancement from the government or other sources may be required to attract investment.
- **Competition in BOT:** For better quality and lower costs.
- **Satisfactory returns:** There is competition for international capital. Early projects may have to offer higher returns while later ones with an established track record could benefit from lower rates.
- **Reputed project sponsor:** An experienced and strong project sponsor makes project formulation and design, negotiations and implementations much easier.
- **Suitable project size:** Owing to technical, legal and financial problems, small BOTs are not considered to be economically viable.
- **Fair deal:** A BOT deal should be politically acceptable and fair to all parties, so as to avoid future problems.
- **Careful drafting of documents:** Contracts and agreements need to be clearly drafted, in one language, to avoid legal complexities and costs.
- **Tariff setting:** It should be acceptable to private investors, flexible to accommodate debt service requirements and also compare favourably with avoided cost in the public sector.

# Factors contributing to successful BOT infrastructure projects...3

- In certain cases, a concession agreement may require the Government to construct supporting facilities, e.g., access roads. A failure in this regard may have repercussions on the project, e.g., Eurostar.
- When risks are allocated to a party that is not able to control it, then it could lead to problems. Also, a failure to allocate a given risk to a party that is best able to control it, will lead to a loss of efficiency.
- Efforts to keep bidding costs low are desirable so that it does not discourage contractors from participating.
- A concession period has to be sufficiently long so that it does not hinder the sponsors from raising finance.
- An incentive could be extended to the sponsor for investments in the project in the **later** part of the concession period, when the sponsor is less inclined to making the investments.

# Financial viability of an infrastructure project

- The financial viability of an infrastructure project is determined by four features:
  1. Traffic volume.
  2. User fee.
  3. Concession period: The period during which the promoter will build and operate the project.
  4. Capital Costs.
- A key success factor for timely completion of infrastructure projects is the inclusion of **not just incentives, but disincentives as well.**

# Design-Build-Finance-Operate (DBFO)

- DBFO is an offshoot of the standard BOT model.
- Under it, only detailed output quality is defined by the implementing agency.
- It gives design flexibility to the developer, who can use better technology to reduce costs and complete projects on time, while achieving the output standard.
- It has higher risks as the concession period is non-extendable in case of non-recovery of outlay through toll collection during the term.

# Alternative PPP models

- BOT Toll: Investment is amortized through toll collections by the concessionaire who bears the commercial risks.
- BOT Annuity: Government begins paying an annuity to the developer on the commercial start of the project, with toll collections under Government control.
- Engineering Procurement & Construction (EPC): Cost is completely borne by the government. Private participation is limited to engineering expertise.
- BOT-Viability Gap Funding. Government extends support to attract investment.
- BOT – Negative Grant. If a promoter finds a project very profitable, then he may offer a “negative grant” (or “negative bid”), that is, he actually pays the government to secure the right to build and operate the project.

# [ Hybrid Annuity Model ]

- Aimed at stalled projects, or projects deemed not suited for the BOT Toll model, because of commercial/inflation risks.
- Mix of BOT Annuity and EPC projects.
- Government contributes 40 per cent of the project cost by equal annuity payments, stretching over five years. The liquidity infusion helps the concessionaire, who funds the balance 60 per cent with debt and equity.
- The concessionaire is remunerated by installments stretching over a long period. The financing structure encourages bank lending.
- Construction and maintenance risks are borne by the developer. Financial risk is shared with the government.
- Developer has no claim to the toll revenues.

# Viability Gap Funding

- International Expressways Corporation (IEC) has been in talks with the state government of “Eastern Pradesh”, about constructing an expressway in the state. The project will have a gestation period of three years and the investment on the project (assumed to occur at the beginning of the respective periods) will be as follows:
  - Year 1: \$550 million
  - Year 2: \$500 million
  - Year 3: \$250 million
- Once the project starts, expected net cash inflows (assumed to occur at the year-end) are as follows:
  - Year 3: \$100 million
  - Year 4: \$150 million
  - Year 5: \$ 200 million
  - Year 6: \$ 250 million
  - Years 7 through 10: \$ 300 million per year
- Ignoring taxes and assuming that:
  1. The project would be transferred to the state government for a sum of \$1 billion at the end of ten years, and
  2. The parties have agreed to a 12% rate of return for IEC, what amount of grant would IEC be seeking upfront to make it a viable investment? What would be the amount payable if the government insists on making the payment only upon completion of the project?

# Conditions for success of Infrastructure projects

- **Ideally, the project must be a stand-alone venture, with a definable terminal date.**

(Project Finance is a mechanism for involving the private sector in funding and managing infrastructure projects. Under it, a project is established as a separate company - Special Purpose Vehicle - with a significant equity contribution by the project manager or sponsor. The company operates with a high debt ratio. By using project finance, a government ropes in both private-sector funding and private-sector management. Thus project finance reduces the need for government borrowing)

- **Costs and revenues must depend on the project alone.**
- **The success of the project must depend on clearly understood factors such as the cost of and time taken to complete it.**
- **Lenders and equity investors must be clear not just about the distribution of surplus cash flows, but also about the risks associated with the project.**

# Why are traditional financing arrangements inadequate?

- Scale of investment and limited capacity of the domestic capital market.
- Likely mismatch between the project's cash flow pattern and a conventional term loan with its maturity constraints.
- Equity? The wait is mostly too long and therefore the risk perception is high.
- Pension funds, being long-term investors are an ideal answer; but, they are risk-averse.
- **SOLUTION: Structured Financing Options (another risk-mitigating measure!).**

# Structured Financing Options... 1

- Non-recourse project specific financing.
- Deep Discount Bonds with premature exit options or Zero-coupon Bonds.
- Infrastructure Equity Fund.
- Two-stage financing.
- Pension funds (with Bond Insurance).
- Supplier's credit.
- Viability Gap Funding.

# Structured Financing Options...2

- Non-recourse project specific financing: The debt obligations will be met out of the revenues from the project financed.
- Deep Discount Bonds or Zero-coupon Bonds: The interest outflow is limited or eliminated.
- Infrastructure Equity Fund: Diverse portfolio of securities of different infrastructure projects.
- Two-stage financing: IIFCL's (and earlier IDFC's) "Take-out Financing": Guarantees repayment to lending institutions.
- Pension funds (with Bond Insurance): Default risk is mitigated.
- Supplier's credit.
- Viability Gap Funding: A scheme whereby the government directly gives grants to promoters of projects that are unviable under a certain user charge regime.

# Credit enhancement techniques to obtain better ratings

- Cash/Reserve Account (Escrow).
- Senior debt.
- Financial Guaranty (Bond Insurance).
- Government budgetary support.
- Over-collateralization through cash and other liquid assets or bank guarantees.

# [ Financial Guaranty ]

- An unconditional guarantee to pay interest and principal to bond holders as scheduled.

## Applications:

- To introduce new borrowers.
- To facilitate the sale of longer-maturity instruments.
- To reduce the cost of funds.
- To access international markets.

# Financial Guaranty

	Without guaranty	With guaranty
Credit Rating	A	AAA
Maturity (years)	5	5
Issue size	\$500 million	\$500 million
Interest rate	15.50%	14.75%
Present Value (PV) of savings @ 18%		\$11.73 million
Less: PV of insurance @0.5% of debt service		\$(7.82) million
Net Savings		\$3.91 million

# Salient features of Leasing

- Leasing is a contractual arrangement by which a firm acquires the right to use an asset for a definite period, in return for rent payable at regular intervals.
  
- Advantages of Leasing include:
  1. Availability of 100% financing.
  2. Tax deduction on lease payments.
  3. Flexible terms of payment.
  
- Disadvantages of Leasing:
  1. Can be an expensive source of funds.
  2. Risk of financial failure of Lessor may jeopardize the continued use of leased assets by the Lessee.

# [Types of Leases]

- **Direct:**

1. Financial Lease – A lease with no cancellation clause and no provision for maintenance. The lease covers the useful life of an asset and its cost is fully amortized.
2. Operating or Service Leases – A contract under which the lessor maintains and services the leased equipment. The term of the lease may be less than the economic life of the asset. The lessee also has an option to prematurely cancel the lease. Operating leases allow lessees to deal with equipment that have a high rate of technological obsolescence.

- **Sale and Leaseback:** A contract by which an asset is sold by its owner to a leasing company, but is immediately taken on a lease contract. The owner receives a cash flow and also has the asset for use.

- **Leveraged Lease:** An arrangement in which the lessor purchases an asset with the help of a loan.