

RISK MANAGEMENT FOR INFRASTRUCTURE PROJECTS & TERMSHEET DEVELOPMENT

CORE RISKS

- REGULATORY FRAMEWORK
- DEMAND
- PRICING OF SERVICES
- REVENUE

Regulatory Framework

Risk

Commercial operations will be feasible only if regulations permit

- Construction and ownership of facilities
- Imposition and revision of price for services provided
- Retention and appropriation of profits by PSP
- Creation of charge on Project Assets/Facility and receivables

Mitigation

It is necessary to :

- Conduct legal due diligence to identify regulatory deficiencies
- Obtain state commitment to necessary change of law and make government liable for risks change of change in law.

Demand

Risk

- Demand estimates may not be there in a green field project (NGHC Project in Ranchi, Jharkhand) or be unrealistic as usually they are derived from macro economic and demographic projections.
- The establishment of a competing facilities can affect demand adversely.

Mitigation

- Provide for extension of Concession Period in case Project IRR is not achieved/ state support to tariff as sub-debt..
- Provision not to establish a competing Facility –but restriction should be reasonable- for specified period or in specified area.
- Upfront offtake commitment from consumers - take or pay contract.

Pricing of Services

Risks

- Risk lies in :
 - Losing consumers/ collective resistance- historically infrastructure has been a free or under priced public good
 - Securing regulatory approval.

Mitigation

- Make consumers aware of price of existing or competing facilities or services, savings available by use of facility
- Price discrimination-higher prices for commercial or industrial users, lower prices for weaker sections/frequent users
- Willingness to pay surveys to be carried out to establish price elasticity

Revenue Support

- **Risk**
- Risk of inadequate return is high, demand is uncertain, PSP may not free to determine prices on commercial basis or be required to provide free or cheaper services to target groups.
- **Mitigation**
- Government has to under write a minimum rate of return, through the following
 - Fiscal incentives –waivers of stamp duties and registration charges, tax exemptions etc,
 - Compensation to PSP in cash or by extension of Concession Period if PSP is required to provide free good/service – In Road Projects- compensation in case of addition to exempted category .
 - Revenue Shortfall Support by way of loan from Government to meet debt service and O&M Expenses.
 - Non competing facilities restricted or regulated.
 - Development Rights

CONSTRUCTION RISKS

- DESIGN
- CONSENTS
- CONSTRUCTION COST
- CONSTRUCTION TIME
- DEFECTS IN CONSTRUCTION

Design

- **Risk**
- The Project Design is usually prepared by private sector participant with approval by the Government or Independent Engineer.
- **Mitigation**
- This risk is allocated to Concessionaire with a pass through to the EPC Contractor.
- No liability on Government for review or failure to review by Government or Independent Engineer..

Consents

- Approvals needed from Competent Authorities (Central, State or local bodies). Some affected areas are :
 - Environmental Clearances, particularly for forests, coastal zones etc.
 - Land Development –Statutory Approvals of Master Plans etc.
 - Regulation by PSP- Traffic on the Project Road
 - Various Construction and O&M activities
 - Acquiring land, shifting of utilities or removal of encroachments
 - Rehabilitation of PAPs
- The allocation of this risk between PSP and State should be clearly defined. State typically agrees for best effort assistance but should be made responsible for providing clearances within its control and power and provide facilitation of others

Consents (contd...)

Mitigation

- A general principle for effective allocation would be to :
 - Allocate responsibility for clearances/consents on technical, commercial and financial issues to PSP. There may be a pass through to the EPC Contractor.
 - Allocate responsibility for land acquisition, shifting utilities, removing encroachments, rehabilitation, environment to the State entity.
- Risks of delays in obtaining approval and implication of that on cost needs to be assessed.
- In Punjab, GOP has agreed to pay for damages in case of delays in providing unencumbered possession of site with caps and for removal of utilities by the PSP.

Construction Cost

- Preferably a single EPC Contractor to avoid interface risks
- Use of lumpsum turnkey contracting basis to obtain fixity of cost
- Clearing state circumstances under which the Concessionaire may claim additional remuneration, which should be : i e-
Change of Scope
- Inflation risk etc. should be factored in the lump sum price
- contingent funding provision should be made
- Relief should be given for cost overruns due to default or delay of public partner or non-insurable Force Majeure Events –this could be in cash or extension of Concession Period.

Construction Time

- Is time the essence of the contract?
- Monitor time more closely for the essential public components and leave it to PSP for commercial components in which profit sense will motivate PSP
- Pre qualification and bid evaluation process (technical capacity, financial strength and track record) to establish the PSP's ability for implementation of Project, including timely completion
- Implementation Schedule should be clearly delineated with milestones for sub-activities.
- Time extension on payment of liquidated damage for delay. After which State entitled to terminate.
- Periodic reporting and inspection by Monitoring Agency
- Commercial incentive for early completion – COD achieved earlier and therefore longer Operations Period.

Defects in Construction

- Clearly stated Specifications and Standards to determine performance
- Testing requirements to be detailed
- Defects Liability Period
- LDs for failure to meet performance parameters
- Performance Security and/or retention of payments
- Insurances

OPERATION & MAINTENANCE RISKS

- PERFORMANCE
- COST
- SECURITY OF FACILITIES

Operational Performance

- Periodic Reporting and Monitoring of performance.
- Performance Standards should be outlined clearly.
- Liability on PSP to remove, repair, replace the defects or defaults.
- Performance Security
- LDs for failure to meet performance parameters
- Circumstances in which performance standards may be relaxed may be outlined –i.e..lane closure for repairs or under government orders.
- Insurances

Cost of O&M

- The Operator will be bound to contracted fixed cost and will carry risk of variation, subject to suitable index linkage to compensate for inflation. indexation basis must be aligned to factors affecting cost of operations
- Operator may be given incentives for performance in form of revenue share in which case the Operator may be willing to absorb the cost risk
- GENERALLY the construction and O&M risks are allocated to the PSP unless the same are due to the public partner. It is desirable to make the contractor and operator a stakeholder in the Project SPV.

FINANCIAL RISKS

- LIQUIDITY
- INTEREST RATE
- EXCHANGE RATE
- DEBT SERVICE RISK

Liquidity Risk

- Achievement of Financial Close prior to construction commencement. (Wet and Dry Financial Closure).
- Agreement to be bankable- step in rights, substitute entity, creation of securities in favour of lenders, cross default provision, escrowing of receivable.
- Matching of payment obligations with draw down from lenders and investors
- Contingent financing commitments from sponsors/promoters to cover overrun obligations.
- Billing and collection to be benchmarked and monitored (redressal of complaints, fast track resolution of billing disputes, rebates for down payment or to early birds, loyalty bonus, security deposit from consumers etc.)

Interest Rate & Foreign Exchange Risk

- Where the Concession is structured on a fixed rate of return on total cost of project, the project borrowings must be contracted on corresponding fixed rate basis. Interest rate swaps should be considered to hedge any floating rate exposure.
- a judicious mix of fixed rate and floating rate instruments may be used.
- Project could be subject to exchange rate risk on account of foreign currency denominated payment obligations to Contractor or Operator or debt servicing of foreign currency borrowings
- Where project revenue accrues entirely in local currency, exchange risk should be eliminated through swaps and forward cover

Debt Servicing

- A debt service reserve to be maintained to ensure debt servicing
- Access to standby line of credit.

INSURANCE

Insurance : Project Construction

- Use of insurance must be maximised in infrastructure projects in view of a limited recourse format
- As best practice, insurance for project construction must be taken jointly covering Concessionaire, contractors and operators
 - Construction/Erection all risks including
 - Design risk cover
 - Escalation
 - Defect liability period
 - Delay in Start Up : Debt service and other fixed costs
 - Third Party Liability
- The contractor must be bound to take adequate cover for :
 - Construction plant and equipment
 - Workmen's compensation

Insurance : Project Operation

- Insurance cover, post commencement of operations :
 - Fire
 - Machinery Breakdown
 - Cash in safe and in transit
 - Business Interruption
 - Third Party Liability
- Mandatory public liability insurance, wherever applicable
- Operator must take insurance for :
 - Workmen's compensation
 - Employee fidelity

ENVIRONMENTAL AND SOCIAL RISKS

- ENVIRONMENTAL RISKS
- SOCIAL RISKS

Environmental Risks

- Legislation relating to environment protection has been enacted by the Central as well as State Governments
- The law specifies
 - Impact assessment requirements for proposed projects
 - Review and clearance process and authority
- Change of law during project construction or operation could increase project cost or prevent operation of facilities altogether
- Specialised consultants must be used to carry out the EIA and develop the EMP
- An implementation monitoring framework must be established as part of EMP

Management of Environmental Risks

- Support commitment of the government sponsor to facilitate the process of obtaining requisite clearances and exemptions
- Change of regulations having a material adverse effect to be treated as a force majeure risk to be underwritten by the government partner
- The risk of additional costs necessitated by change in regulation may require tariff revision by pass through.

Social Risks

- Social risks arise out of :
 - Displacement of persons from project sites
 - Loss or impairment of livelihood
 - Loss of access rights etc.

Framework for Managing Social Risks

- Land and right of way acquisition and rehabilitation of displaced persons must be the obligation of the state sponsor
- Effective monitoring of implementation plan for rehabilitating PAPs must be established.
- Local Law provisions to be explored- Maharashtra
- Projects involving large scale displacement populations may not be amenable to commercialisation.

FORCE MAJEURE & TERMINATION

- FORCE MAJEURE
- POLITICAL
- NON POLITICAL
- TERMINATION

Force Majeure

- Political Force majeure
 - Nationalisation; Political Agitations; Riots; Change in Law; Court Order; Acts of State Authorities
- Non Political Force Majeure
 - Earthquake, Cyclone, Floods; Fire, Explosion; Epidemic; War; Labour Disputes
- Mitigation
 - This risk is mitigated through insurance and back stop by government

Termination

- Government Event of Default
 - Material Breach of Obligations
 - Change in Law
 - Defective Title, Ownership & Possession of Project Site
 - Delay or Omissions
- Concessionaire Event of Default
 - Material Breach of Obligations
 - Omissions, Delay
 - Liquidation, Winding-up, Re-organisation
 - Abandonment of Project
- Force Majeure

Termination

Mitigation

- Defaulting party liable for termination payments to the extent the same are not covered by insurance.
- The Government invariable bears the political and sovereign risks; non-insurable political force majeure risks.
- Government required to back stop lenders.

INDEPENDENT REVIEW

Independent Review

- Institutional framework for independent review
 - Nomination of eminent persons to the SPV Board
 - Empowered committee of experts
 - Independent Engineer and Independent Auditor
 - Internal Auditor for the SPV

Principles of Risk Allocation

- It is economically efficient to allocate risks to the party in the best position to manage and control them or insure them
- Risk allocation should be to achieve Pareto Optimality.
- Commercial risks should be allocated to the private sector and political risks to the state sector
- Ensure a stake for each party in fixing uncontrollable risks : so that all parties work together to manage the risk.
- Notwithstanding risk management, we still have to live with a 9/11 , Tsunami or New Orleans. This is why in the case of compensation for factors, profit, being a reward for risk taking, is the highest.