

NATIONAL LAW SCHOOL OF INDIA UNIVERSITY

INFRASTRUCTURE PROJECT FINANCE

IN INDIA:

KEY CHALLENGES AND ISSUES

(Under the learned guidance of Prof. O.V. Nandimath)

Dissertation submitted in partial fulfillment of the
requirement for the Degree of Master in Law

Submitted By:	Vishal .P. Bhat, LL.M. Final Year I.D. No.347, NLSIU
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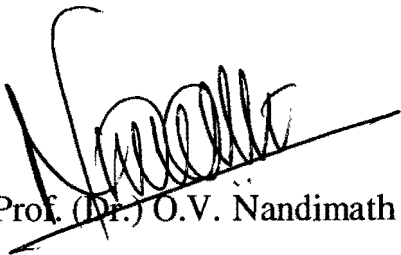
Bangalore

CERTIFICATE

This is to certify that this dissertation titled “*Infrastructure Project Finance in India: Key Challenges and Issues*” submitted by Mr. Vishal P. Bhat (I.D. No. 347) for the Degree of Master of Laws of the National Law School of India University is a product of *bona fide research* carried out under my guidance and supervision. This dissertation or any part thereof has not been submitted elsewhere for any other degree.

Date: 17/6/2010

Place: Bangalore



Prof. (Dr.) O.V. Nandimath

DECLARATION

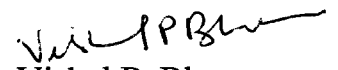
I, Vishal P. Bhat, do hereby declare that this dissertation, titled "*Infrastructure Project Finance in India: Key Challenges and Issues*", is the result of the research undertaken by me in the course of my LL.M Course at National Law School of India University, Bangalore under the guidance of Professor (Dr.) O.V. Nandimath.

The dissertation submitted is my original work, except for such help taken from authorities as have been cited and referred for which due acknowledgement has been made.

I further declare, that this work has not been submitted either in part or in whole, for any degree or diploma at any other University or Institution.

Date: 14/06/2010

Place: Bangalore


Vishal P. Bhat

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I acknowledge my indebtedness to the God Almighty and the blessings of my beloved Parents without which this dissertation would have been an arduous task to complete..

This dissertation bears testimony to the active encouragement and guidance of a host of friends and well-wishers. In particular mention must be made of Preetham Nelson D' Costa, Mahesh Arkalgud, Harikrishnan T., Nilan Niruthan, Chandratre Shantanu, Zoeb Cutlerywala and C. Karthick without whose friendship my journey in law school would have been incomplete.

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NLSIU, Bangalore

May 2010

Vishal P. Bhat

RESEARCH BACKGROUND

1. Introduction

Infrastructure is the backbone of every economy and a key to achieving economic excellence and development. It is said “*It is not America that has made roads, but the roads that have made America*”. Such is the importance attributed by Countries in developing their infrastructure. Infrastructure is an asset to every government as it not only facilitates trade and industrialization but also helps nations grow not only in terms of wealth but also develop their people. Infrastructure is key to the overall development of the Nation. Realizing its importance governments have committed substantial portions of their resources in developing the requisite infrastructure to act as a catalyst for growth. However, despite such attention, governments of several developing and emerging economies are finding it very difficult to sustain the finances necessary to improve their infrastructure. It is at this juncture, that financing of infrastructure has become important.

For several years, project finance has been the ideal form of financing for large-scale infrastructure projects worldwide. Numerous studies have emphasized its critical importance, especially for emerging economies, focusing on the link between infrastructure investment and economic growth. Over the last few years, however, episodes of financial tumult in emerging markets, the difficulties encountered in several sectors and the financial failure of several high-profile projects¹ have led many to rethink the risks involved in project financing. It is for this reason that project finance has acquired a central role in the development of an economy.

Project finance being complex, presents several challenges that require a specialist’s knowledge to understand the challenges which evolve from complex structures. These challenges have to be efficiently managed and mitigated in order to provide effective finance from commercial lenders. Banks and financial institutions are the single most effective source to provide project finance and they take a large part of the risk involved in an infrastructure project. In project finance, as credit risk tends to be relatively high at project inception and to diminish over the life of the project, project financing needs long-term debt and financing opportunities.

¹ Three spectacular recent financial failures are the Channel Tunnel linking France and the United Kingdom, the EuroDisney theme park outside Paris and the Dabhol power project in India.

Further, the changing face of infrastructure service worldwide has created a complex situation which demands a greater understanding of the roles of competition and choice, regulatory structures, modes of financing and new technologies in shaping the evolutions of markets for infrastructure services. Knowledge of such issues are a decisive factor in building confidence among the key parties involved – host governments, project promoters and creditors – in bringing projects to successful closure.

Experience with private sector involvement in infrastructure projects underlines the need not only for innovative financial structures to deal with a multitude of contractual, political, market and credit risks, but also for building credible structures to ensure that projects are environmentally responsive, socially sensitive, economically viable and politically feasible.

India has been growing at phenomenal rate over the past decade. However, poor infrastructure has become one of the major stumbling blocks that can endanger sustainability of this high growth rate. Infrastructural bottlenecks seem to be a greater danger to growth than the current global recession. The infrastructure is both inadequate as well as of poor quality. Infrastructure under governmental agencies have been mishandled and are in a constant state of disarray and neglect. Governmental agencies are riddled with corruption, red tape, bureaucratic nepotism and this has been a major stumbling block in India's quest to improve her infrastructure.

Further good infrastructure provides key economic services efficiently, improves the economy's competitiveness, generates high productivity and supports strong economic growth. Poor infrastructure can significantly impede economic growth and be a substantial drain on the economy's resources, especially finance. Both the quantity and the quality of infrastructure investment positively affect the climate for economic growth. Private sector financing of infrastructure has the potential to lift both, which makes it the focus of considerable attention in both developed and developing economies. Private participation is necessary to fuel the growth of the infrastructure sector in India. The liberalization and globalization of the Indian economy has thrown open new opportunities and challenges to the Indian private sector.

2. Moving towards Private Participation

Under fiscal constraints and the growing disenchantment with the performance of public infrastructure services, governments in many developing countries are giving the private sector a larger role in providing infrastructure services. Private management and financing in developing countries is rapidly increasing; the main reasons for the shift towards private infrastructure services are²:

- a) *Growing disenchantment with public monopoly ownership and provision of infrastructure services.* Under investment and inefficient management of many state owned utilities, has resulted in a significant unmet demand for infrastructure services. In many countries this is considered as a principal constraint to economic growth. Another disadvantage is that the government is not as efficient as the private sector due to the lack of financial discipline and the over extension in the management of public entities. These inefficiencies make public financing costly. Government are dealing with these inefficiencies by providing increase opportunities for the private sector in infrastructure services. There is increased evidence that the private sector is generally more efficient in terms of construction costs and time, operation and provision of services that are consumer oriented.
- b) Fiscal constraints on governments and external aid agencies. These constraints have led to increasing realization that private financing is necessary to meet the capacity shortage. On the extreme side, private financing and privatization of infrastructure services could bring extra resources and improve public finances.
- c) *Technological Developments.* Technological changes are facilitating competition, by reducing natural monopoly characteristics and allow unbundling, private entry and competition into many infrastructure services.
- d) *Innovative financing techniques and globalization of financial markets.* Venture Capital and institutional investors in developed countries want to diversify their portfolios and achieve higher returns. On the other hand, large size and long payback periods of infrastructure projects have demanded creation of new innovative finance techniques,

² Financing Private Infrastructure – 4 Lessons of Experience, International Finance Corporation, World Bank, Washington DC, 1996, p.45.

such as project financing. The volume of the range of instruments used on the international capital markets increased the supply of funds offering more infrastructure options.

However, given the complexity of infrastructure projects and the risks involved, the private sector has shied away from exposing itself. In such a situation, it is imperative to gain the confidence of the private sector by seeking to address their needs. As a first step, one has to identify the problems faced by them and only after proper analysis of the problems faced by the private sector can the government seek to address these problems.

3. Identification of Key constraints confronting Private Participation in the Infrastructure Project Finance in India:

There are several regulatory and sectoral constraints which confront project financing in India, which poses serious hurdles to financing infrastructure projects in India. There are also a number of sector specific policy and regulatory impediments, which vary considerably across sectors. The following are the major constraints identified:³

A. Financial sector constraints to private financing of infrastructure

- Raising adequate equity finance tends to be the most challenging aspect of infrastructure project financing, as equity typically shoulders the greatest level of operational, financial and market risk.
- Mezzanine financing, which is critical in funding infrastructure projects in developed countries, is also limited in India.
- Infrastructure projects require long tenor loans, and if financed through foreign currency borrowings these need to be adequately hedged against currency risks since few infrastructure projects have forex earnings to serve as a natural hedge. Inability to hedge long term currency risk in a market which is limited to one year's forward cover poses a big challenge to the use of foreign currency loans in these projects.

³ Financing Infrastructure: Addressing Constraints and Challenges, World Bank (June 2006) available at http://www.pppinindia.com/pdf/india_financing_infrastructure_addressing_constraints_and_challenges_june2006.pdf (last accessed January 31, 2010)

- Underdeveloped debt markets are yet another key constraint to infrastructure financing, given that most infrastructure projects begin to generate profits in 10-15 years and require longer term debt.
- A host of regulatory and institutional problems facing financial institutions (FIs) constrain their participation in infrastructure projects.

B. Approvals, Red tape and Government Administrative Capacity

- Infrastructure projects require multiple clearances at centre, state and local levels, resulting in serious delays. The time taken to obtain all the requisite approvals for an infrastructure project can vary between a low of 18 months to as much as four to five years. In spite of many states having introduced, on paper, 'single window clearance', the fact remains that when most projects apply for approvals at the state-level, these have to go through multiple clearances at various levels.

C. Limited capacity within government to execute PPPs in infrastructure

- Both the central government and the states are aiming to use PPPs more extensively to help meet gaps in the provision of basic services in the country. There is limited capacity to effectively conceptualize, procure and manage these PPPs is limited within the public sector – both organizationally (legal frameworks, procurement guidelines etc) and at the individual level.

Therefore, the endeavour of the researcher in this paper is to firstly, to identify the constraints faced by the private sector and secondly, analyze those constraints. Thereafter, seek to address these constraints by suggesting suitable solutions.

RESEARCH METHODOLOGY

1. Research Methodology

The researcher has followed an analytical and descriptive style of writing and preparing this dissertation. Finding of various authorities have been cited for the purpose of analysis and describing various facts having a bearing on the dissertation. Concepts have been explained wherever it has been found necessary and an honest endeavour has been made to maintain the lucidity and flow of language in the dissertation.

2. Objective

This project focuses on key learning areas, capacity building and knowledge of financing new private infrastructure projects as well as the privatization of public utilities in the infrastructure sector. Specific Objectives include:

- Knowledge of how infrastructure projects are analyzed, appraised, financed and managed.
- Understanding industry best practices and partnerships in concession rights awards, contract design and negotiation.
- Examining links between sectoral reforms, regulatory structures and the availability and cost of private finance.
- Gaining a better understanding of the constraints on and the interests of main contracting parties in an Infrastructure Project Transaction.

This dissertation will provide a thorough coverage of concepts and techniques in project selection, risk mitigation through contract design, derivatives and insurance; concession award, international financing opportunities and public policy issues in Infrastructure Project Finance.

3. Scope of Research

The researcher in his quest to understand the complexity involved in Project Financing has touched upon legal concepts to the extent that is necessary for the purpose of this dissertation/paper. This dissertation only highlights the issues faced by the infrastructure sector in seeking project finance in India and therefore, only legal and regulatory issues have

been identified and reviewed in the context of and for the purpose of this dissertation. The researcher in the course of the research that despite references in passing has not critically examined or investigated in to the administrative, accounting, financial and tax aspects of Project Financing. In preparing this dissertation, the researcher has relied on secondary sources of data from various sources. The reliability and factual accuracy of those sources are hence, not guaranteed by this researcher.

4. Research Questions

- a) What are the legal and economic problems that plague India's Infrastructure sector?
- b) Whether private investment is necessary to develop India's Infrastructure Sector?
- c) What are the legal and economic factors in India that are likely to influence the decision making of private investors in the Infrastructure Project Financing?
- d) What are the solutions to address the constraints faced by the Infrastructure Project Finance?

5. Hypothesis

- i. Private Investment is necessary in India's Infrastructure Sector as it not only reduces the dependency on the State for finances but increases the overall efficiency of the Infrastructure Sector.
- ii. That the Public Private Partnership Projects arrangement is remedy for all project financing maladies as India has a scarcity of finances.

6. Chapterization

The researcher in the preparation of this dissertation has used a combination of analytical and descriptive methods of research. For a proper understanding of the subject and presentation of this dissertation, the dissertation has been divided in to four (4) parts – Part A, Part – B, Part – C and Part – D.

Part – A: Provides a sectoral profile of Indian Infrastructure and the fundamentals of Infrastructure Project Finance. Part – A is divided in to four Chapters. Chapter 1 provides us with information pertaining to India's infrastructural needs, a sectoral profile of India's infrastructure and the need for investment in the infrastructure sector. Chapter 2 deals with

the fundamental of project financing, key parties involved, modes of mobilizing finance, sources of finance and typical financing models. Chapter 3 deals with the financial assessment of a project. It covers the development of a project model, analysis of the financial indicators of a project, sensitivity analysis and risk assessment related to a project. It concludes by providing the steps to mitigate project related risks. Chapter 4 deals with Bankability of Projects and the risks related financing of projects by Commercial Banks.

Part B which deals with the regulatory and legal hindrances in Infrastructure Project Finance is divided into two chapters. Chapter 5 deals with the regulation of project finance, the economic rationale of regulations and the institutional and legal framework affecting project finance. Chapter 6 covers the constraints to infrastructure financing in India. It tries to cover all the issues which constrain and plague the financing of infrastructure project in India. It also identifies and analyses the legal and regulatory issues which needs to addressed in India.

Part – C deals with Public Private Partnership Projects in India and has been divided into five chapters. Chapter 7 deals with PPP projects and their importance in public infrastructure in India. It also covers the constraints faced by PPP projects in India and the steps taken by the Government to overcome some of these constraints. Chapter 8 deals with Model Concession Agreement and the attributed of an efficient PPP project contract. Chapter 9 deals with IIFCL which has been formed by the central government for the purpose of funding infrastructure project in India. Chapter 10 deals the various PPP forms of contracts for an infrastructure project. Chapter 11 deals with the various risks which the Host Government faces in PPP Project.

Part – D is the conclusion of this dissertation. In the concluding Chapter i.e. Chapter 12, we summarize the issues faced by Private investors in project finance, the recommendations of various committees and finally the observations and suggestions of the author in seeking to find solutions to address the legal and regulatory issues which have been identified.

7. Sources of Data As the research is based on a descriptive method of research, the researcher has relied on secondary sources of data, namely books, articles, committee reports, reports of various authorities and internet resources.

8. Mode of Citation

The researcher has followed a uniform method of citation as far as possible throughout the dissertation.

9. Word Count

The total number of Words in the is Dissertation 44,605 words (including footnotes and Introduction with Research Methodology - 49, 810)

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PART – A

**PROFILE OF INDIAN INFRASTRUCTURE AND
FUNDAMENTALS OF INFRASTRUCTURE PROJECT FINANCING**

CHAPTER 1

INFRASTRUCTURE DEVELOPMENT IN INDIA

1.1. What is Infrastructure?

Infrastructure is the basic physical and organizational structures needed for the operation of a society or enterprise,¹ or the services and facilities necessary for an economy to function.² The term typically refers to the technical structures that support a society, such as roads, water supply, sewers, power grids, telecommunications, and so forth. Viewed functionally, infrastructure *facilitates* the production of goods and services; for example, roads enable the transport of raw materials to a factory, and also for the distribution of finished products to markets.

1.2. Meaning and Definition

The term infrastructure, as generally understood, covers the capital required to produce economic services from utilities (like electricity, gas, telecommunications and water) and transport works (like roads, bridges, urban transit, seaports and airports). They are *central* to all economic activity.³ While Infrastructure is recognized as a crucial input for economic development, there is no clear definition of infrastructure according to the current usage of the term in India. For policy formulation, setting of sectoral targets and monitoring projects, a clear understanding of what is covered under the rubric of 'infrastructure' is necessary to ensure consistency and comparability in the data collected and reported by various agencies over time.

The Income Tax Act, 1961 under Section 80-IA defines 'Infrastructural facility' as:

- a road including toll road, a bridge or a rail system;
- a highway project including housing or other activities being an integral part of the highway project;
- a water supply project, water treatment system, irrigation project, sanitation and sewerage system or solid waste management system;

¹ *Infrastructure*, Online Compact Oxford English Dictionary, http://www.askoxford.com/concise_oed/infrastructure (last accessed January 17, 2010)

² Sullivan, Arthur; Steven M. Sheffrin (2003). *Economics: Principles in action*. Upper Saddle River, New Jersey 07458: Pearson Prentice Hall. pp. 474. ISBN 0-13-063085-3.

³ David Lynch, *Financing Private Infrastructure Projects - Australian Investment Banks' Experience*, A Briefing Paper for the APEC Financiers Meeting, Tokyo, Japan, February 1996 available at <http://www.apec.org.au/docs/iss8.htm> (last accessed January 17, 2010)

- a port, airport, inland waterway , inland port or navigational channel in the sea.

The World Bank treats power, water supply, sewerage, communication, roads & bridges, ports, airports, railways, housing, urban services, oil/gas production and mining sectors as infrastructure, but education, health, and other social services, as well as finance, public administration, and law, are treated separately.⁴

The Economic Survey considers power, urban services, telecommunications, posts, roads, ports, civil aviation, and railways under infrastructure sector.

The National Statistical Commission headed by *Dr. C. Rangarajan*, attempted to identify infrastructure based on some characteristics. The Rangarajan Commission indicated six characteristics of infrastructure sectors, (a) Natural monopoly, (b) High-sunk costs, (c) Non-tradability of output (d) Non-rivalness (up to congestion limits) in consumption, (e) Possibility of price exclusion, and (f) Bestowing externalities on society. Based on these features (except b, d and e), the Commission recommended inclusion of following in infrastructure in the first stage:

- Railway tracks, signaling system, stations
- Roads, bridges, runways and other airport facilities
- T&D of electricity
- Telephone lines, telecommunications network
- Pipelines for water, crude oil, slurry, waterways, port facilities
- Canal networks for irrigation, sanitation or sewerage.

The Commission further recommended that considering characteristics (b), (d) and (e) also, the above list may be extended to include the following in the second stage:

- Rolling stock on railways
- Vehicles, aircrafts
- Power generating plants
- Production of crude oil, purification of water
- Ships and other vessels.

⁴ Available at <http://www.worldbank.org/html/prddr/trans/janfebmar03/box1pg3.htm> (last accessed January 17, 2010)

Dr. Rakesh Mohan Committee in “The India Infrastructure Report” included Electricity, gas, water supply, telecom, roads, industrial parks, railways, ports, airports, urban infrastructure, and storage as infrastructure. Except industrial parks and urban infrastructure, all these sub-sectors are treated by Central Statistical Organization also as infrastructure.⁵

The Empowered Sub-Committee of the Committee on Infrastructure in its meetings held on 11th January, 2008 and 2nd April 2008 under the chairmanship of Deputy Chairman, Planning Commission discussed the subject matter. There was consensus on including the following in the broad definition of infrastructure⁶:

- i) Electricity (including generation, transmission and distribution) and R&M of power stations,
- ii) Non-Conventional Energy (including wind energy and solar energy),
- iii) Water supply and sanitation (including solid waste management, drainage and sewerage) and street lighting,
- iv) Telecommunications,
- v) Roads & bridges,
- vi) Ports,
- vii) Inland waterways,
- viii) Airports,
- ix) Railways (including rolling stock and mass transit system),
- x) Irrigation (including watershed development),
- xi) Storage,
- xii) Oil and gas pipeline networks.

A Comparative Table on definition of Infrastructure sector and decision of the Empowered Sub-Committee of Committee on Infrastructure (CoI) is given in the Table – 1 below⁷:

⁵ Planning Commission, ‘Definition of Infrastructure’ available at <http://infrastructure.gov.in/pdf/doi.pdf> (last visited January 17, 2010).

⁶ Note on Empowered Sub-Committee of the Committee on Infrastructure on this subject in the meetings held on 11th January, 2008 and 2nd April, 2008 under the chairmanship of Deputy Chairman, Planning Commission. Available at <http://infrastructure.gov.in/pdf/doi.pdf> (last accessed April 10, 2010)

⁷ Ibid., Foot Note 4

Table No.1: Comparative Table

Sector	Rangarajan Commission	Rakesh Mohan Report/ CSO	RBI	Income Tax	IRDA	Ministry of Finance-Economic Survey	World Bank	Decision of the Empowered Sub-Committee of CoI
Electricity	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (incl. R&M of power stations)
Water Supply	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sewerage	Yes		Yes	Yes	Yes	Yes	Yes	Yes (incl. SWM and street lighting)
Telecommunications	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Roads & Bridges	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ports	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (incl. Inland waterways)
Airports	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rail (rolling Stock)	Yes	Yes				Yes	Yes	Yes
Railways	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (incl. MTS)
Wind Energy		Yes (CSO)						Yes (incl. Solar Energy)
Irrigation	Yes	Yes	Yes	Yes	Yes			Yes (incl. watershed Development)
Storage		Yes	Yes	Yes (at ports)	Yes			Yes
Housing							Yes	
Urban services; as Street lighting, Solid Waste Management (SWM)		Yes (Rakesh Mohan), - No (CSO)	Yes		Yes (SWM)	Yes	Yes	
Oil production & pipe lines	Yes						Yes	Yes (oil pipelines only)
Mining							Yes	
Gas distribution		Yes					Yes	Yes (gas pipelines only)
Aircrafts	Yes	Yes						
Vehicles, trucks, buses etc. (Road Transport System)	Yes	Yes						
Industrial Park/ SEZ		Yes (RM), No (CSO)	Yes	Yes	Yes			
Educational Institutions			Yes		Yes			
Hospitals			Yes		Yes			
Posts						Yes		

Source: Comparative Table on definition of Infrastructure sector and Decision of the Empowered Sub-Committee of Committee on Infrastructure (CoI).

India needs to increase its spending on infrastructure from 4–5% to 9% of GDP if it is to achieve its growth targets.⁹ Table 2 provides a comparison of India’s infrastructure availability.

Table No.2: Comparison of India’s Infrastructure Availability

Item	Population (million)	National Expressways (’000 miles)	Major Airports	Electricity Production (billion of kWh)	Port Shipments (billion tons)
India	1,100	3.7	17	652	0.4
PRC	1,300	25.0	56	2,500	2.9
United States	300	47.0	189	4,000	1.4

kWh = kilowatt-hour, PRC = People’s Republic of China.

Sources: International Monetary Fund, United States Energy Information Administration, Morgan Stanley, China National Development and Reform Commission, and National Council of Applied Economic Research (India).

1.4. Profile of India’s Physical Infrastructure

Performance of physical infrastructure in Indian economy in last one and half decades has been mixed and uneven. Table 3 provides the latest achievement of India’s physical infrastructure sector.

Table No.3

INDIA: Transport Sector Key Statistics		
	Units	As of 2009
Length of Roads	Km.	3,516,452
Main Roads	Km.	666,452
Paved Roads	%	47.3
Access to All-Season-Roads	%	61
Road Density	km/1,000 sq. km.	1115
Rail Track Length	Km.	63,327
No. of Ports		199
Turnaround time	Days	3
Airports		125
International		11

⁹ Chile, for example, is estimated to have spent about 7% of its GDP in 2006 on infrastructure while the estimated figure for the Peoples’ Republic of China is 9%.

1.4.1. Roads

For a country of India's size, an efficient road network is necessary both for national integration as well as for socio-economic development. Roads are the dominant mode of transportation in India today. They carry almost 90 percent of the country's passenger traffic and 65 percent of its freight. The density of India's highway network -- at 0.66 km of highway per square kilometer of land -- is similar to that of the United States (0.65) and much greater than China's (0.16) or Brazil's (0.20). However, most highways in India are narrow and congested with poor surface quality, and 40 percent of India's villages do not have access to all-weather roads. The National Highways (NH), with a total length of 66,590 km, serve as the arterial network across the country. The ongoing programme of four-laning the 5846 km long Golden Quadrilateral (GQ) connecting Delhi, Mumbai, Chennai and Kolkata is nearing completion. The ongoing four-laning of the 7,142 km North-South East-West (NSEW) corridor is to be completed by December 2009. In its third meeting held on 13 January, 2005, the Committee on Infrastructure adopted an Action Plan for development of the National Highways network. An ambitious National Highway Development Programme (NHDP), involving a total investment of Rs.2,20,000 crore up to 2012, has been established. The main elements of the programme are as follows¹⁰:

- The NHDP Phase I and Phase II comprise of the Golden Quadrilateral (GQ) linking the four metropolitan cities in India i.e. Delhi-Mumbai-Chennai-Kolkata, the North-South corridor connecting Srinagar to Kanyakumari including the Kochi-Salem spur and the East-West Corridor connecting Silchar to Porbandar besides port connectivity and some other projects on National Highways. Four-laning of the Golden Quadrilateral is nearing completion. Four-laning of 7,166 km under NHDP-I and 2,440 km under NHDP-II has been completed up to December 2008. Four-laning of 7,166km under NHDP-I and 2,440 km under NHDP-II has been completed up to December 2008. The contracts for projects forming part of NS-EW corridors are being awarded rapidly for completion by December 2009.
- The Union Cabinet has approved the four-laning of 12,109 km of high density national highways, through the Build, Operation & Transfer (BOT) mode. The programme consists of stretches of National Highways carrying high volume of traffic, connecting state capitals with the NHDP Phases I and II network and providing connectivity to

¹⁰ Available at <http://www.pppinindia.com/sector-highways.php> (last accessed April 01, 2010)

places of economic, commercial and tourist importance. Up to December 2008, NHAI has awarded contracts of 2,075 km.

- With a view to providing balanced and equitable distribution of the improved/widened highways network throughout the country, NHDP-IV envisages upgradation of 20,000 kms of such highways into two-lane highways, at an indicative cost of Rs.27,800 crore. This will ensure that their capacity, speed and safety match minimum benchmarks for national highways.
- Under NHDP-V, the Committee on Infrastructure has approved the six-laning of the four-lane highways comprising the Golden Quadrilateral and certain other high density stretches, through PPPs on BOT basis. These corridors have been four-laned under the first phase of NHDP, and the programme for their six-laning will be completed by 2012. NHAI has already awarded contracts for 1,030 km till December 2008.
- With the growing importance of certain urban centres of India, particularly those located within a few hundred kilometers of each other, expressways would be both viable and beneficial. The Committee on Infrastructure has approved 1000 kms. of expressways to be developed on a BOT basis, at an indicative cost of Rs.16,680 crore. These expressways would be constructed on new alignments.
- The development of ring roads, bypasses, grade separators and service roads is considered necessary for full utilization of highway capacity as well as for enhanced safety and efficiency. For this, a programme for development of such features at an indicative cost of Rs.16,680 crore, has been approved.

1.4.2. Railways

Indian Railways is one of the largest railways under single management. It carries some 17 million passengers and 2 million tonnes of freight a day in year 2007 and is one of the world's largest employers. The railways play a leading role in carrying passengers and cargo across India's vast territory.

The rapid rise in international trade and domestic cargo has placed a great strain on the Delhi-Mumbai and Delhi-Kolkata rail track. Government has, therefore, decided to build dedicated freight corridors in the Western and Eastern high-density routes. The high-density network

connecting the four metropolitan cities of Chennai, Delhi, Kolkata and Mumbai, including its diagonals, popularly called the Golden Quadrilateral has got saturated at most of the locations. Given the present growth scenario, the Railways expect to carry 95 million tonnes incremental traffic per year and about 1,100 million tonnes revenue earning freight traffic by the end of the Eleventh Five Year Plan. This entails large investment for capacity augmentation. The investment is expected to be about Rs. 22,000 crore (US \$ 5 bn). Requisite surveys and project reports are in progress and work is expected to commence within a year. With increasing containerization of cargo, the demand for its movement by rail has grown rapidly. So far, container movement by rail was the monopoly of a public sector entity, CONCOR. The container movement has been thrown open to competition and private sector entities have been made eligible for running container trains. 14 applicants have submitted the application seeking permission for container train operation, which have been approved. Tariff rationalization and effective cost allocation mechanism are also on the anvil. This includes a methodology for indexing the fare structure to line haul costs. Efforts aimed at introducing commercial accounting and information technology systems are also underway. However, most of its major corridors have capacity constraint requiring capacity enhancement plans. The railways have targeted moving 1,100 billion ton kms of freight and 8.4 billion passengers by the last year of the 11th FYP. Planned initiatives during 11th FYP include:

- (i) Construction of the eastern and western dedicated freight corridors at a cost of \$15.29 billion.
- (ii) Construction of high-speed passenger corridors to run trains at more than 300 km per hour.
- (iii) Expansion of suburban services through completion of the Mumbai Urban Transport Project phase I and initiation of phase II.
- (iv) Double production of rolling stock compared with 10th FYP.
- (v) Increased production of high horsepower and energy efficient locomotives.

These initiatives are expected to require investments of around \$89.21 billion between FY2006 and FY2014. Investment on this scale would have a multiplier effect resulting in an estimated increase in India's GDP by \$356.86 billion during the investment period.¹¹

¹¹ Available at <http://www.pppinindia.com/sector-railways.php> (last accessed April 01, 2010)

1.4.3. Ports¹²

Indian ports handled cargo of 519 million tonnes in 2004-05, an 11.8% increase over 2003-04. 70% of the traffic at major ports by volume is dry and liquid bulk, remaining 30% is general cargo, including containers - Containerized cargo has grown at a rate of about 14% p.a. over the last 5 years. India has 12 major ports and 187 minor ports along 7,517 km long Indian coastline

- Cargo handled by Major Ports has increased by 9.5% p.a. over last 3 years
- Major ports handle nearly 75% of the total traffic

Of the 12 major ports, 11 are run by Port Trusts while the port at Ennore is a corporation under the Central Government. These ports handled 383.75 million tonnes of cargo in 2004-05. 2 major Government projects underway:

- Project "Sethusamundram": Dredging of the Palk Strait, in Southern India to facilitate maritime trade through it
- National Maritime Development Programme for modernisation and expansion of port capacities

Table No.4: Cargo handled by Major Ports in India

Major Port	Trade (04-05, MMT)	Container (04-05)(million TEU)	Traffic
Chennai	44	0.62	
Cochin	14	0.19	
Ennore	9.5	—	
Haldia	36	0.13	
JNPT	33	2.37	
Kandla	42	0.18	
Kolkata Dock System	10	0.16	
Mormagao	31	0.01	
Mumbai	35	0.22	

¹² Information Source: www.investmentcommission.in

New Mangalore	34	0.01
Paradip	30	—
Tuticorin	16	0.31
Vizag	50	0.05

Source: Indian Ports Association

* Twenty foot equivalent unit

1.4.4. Airports

India has 125 airports; of these 11 are designated as international airports in 2004-05, Indian airports handled 60 million passengers and 1.3 million tonnes of cargo. Passenger traffic grew at over 22% in 2004-05 over 2003-04; Cargo grew at 21.6% over the previous year Indian airports handled 96 million passengers and 1.5 million tonnes of cargo in year 2006-2007, an increase of 31.4% for passenger and 10.6% for cargo traffic over previous year. The dramatic increase in air traffic for both passengers and cargo in recent years has placed a heavy strain on the country's major airports. Passenger traffic is projected to cross 100 million and cargo to cross 3.3 million tonnes by year 2010.¹³

The operations, management and development of the airports at Delhi and Mumbai were handed over to the joint venture companies namely Delhi International Airport (P) Ltd. (DIAL) and Mumbai International Airport (P) Ltd. (MIAL). The strategic joint venture partners in DIAL are a consortium led by GMR Group along with Fraport as the Airport Operator, and Malaysian Airports and India Development Fund as the other members. The joint venture partners together hold 74 per cent equity with the balance 26 per cent being held by Airports Authority of India (AAI). Similarly, in case of MIAL, the strategic joint venture partners are a consortium comprising of GVK Group along with Airport Company South Africa as the Airport Operator, and Bidest, South Africa as the other member.

¹³Available at <http://www.pppinindia.com/sector-airports.php> (last accessed April 01, 2010)

Various agreements/contracts for handing over the control of the two airports to DIAL and MIAL were executed in April 2006; and with effect from May 3, 2006, the transactions have become effective. The companies have since finalized their master plans for a 20 year period.

Airports Authority of India (AAI) has decided to develop and modernize 35 non-metro airports in the country, namely, Agati, Agartala, Agra, Ahmedabad, Amritsar, Aurangabad, Bhopal, Bhubaneswar, Chandigarh, Coimbatore, Dehradun, Dimapur, Goa, Guwahati, Imphal, Indore, Jaipur, Jammu Khajurao, Lucknow, Madurai, Mangalore, Nagpur, Patna, Port Blair, Pune, Raipur, Rajkot, Ranchi, Trichy, Thiruvananthapuram, Udaipur, Vadodara, Varanasi, and Vishakapatnam. The Committee on Infrastructure has approved the report of the task force for the development of 35 non-metro airports. Development of airports in India's North Eastern Region (NER) will be taken up by AAI on a priority basis.

1.4.5. Telecom¹⁴

India is the fifth largest telecom services market in the world; \$17.8 billion revenues in FY 2005. The - Industry grew by about 36% in FY 2005 over FY 2004 with about 142 million subscribers, 49 million fixed lines and 93 million wireless in March 2006, the Telecom market has grown at about 25% p.a. over the last 5 years. The Wireless segment subscriber base grew at 85% p.a.; fixed line segment at about 10% p.a.¹⁵ The Indian telecom market has both public and private sector companies participating:

- Public sector has over 43% market share, down from over 90% in 2000
- Private companies have added subscribers at a CAGR of 172% since 2000

Mobile operators have deployed both CDMA (24 million users) and GSM (69 million users) wireless networks. And value added service features constitute 10% of revenue today (2% in 2001)

Table No.5: Major players and presence in value chain

Company	Services				Investor
	Cellular	Basic	NLD ¹	ILD ²	

¹⁴ Information Source: www.investmentcommission.in

¹⁵ Available at <http://www.pppindia.com/sector-telecom.php> (last accessed April 01, 2010)

1.	Bharti Televentures	✓	✓	✓	✓	Vodafone, Singapore Telecom, Warburg Pincus
2.	Reliance Infocomm	✓	✓	✓	✓	Reliance Group
3.	Tata Indicom	✓	✓	✓	✓	Tata Group
4.	BSNL	✓	✓	✓		Government of India
5.	Hutchison Essar	✓				Hutchison Whampoa, Essar Group
6.	IDEA Cellular	✓				AT&T, Tata Group, Birla Group

Note: 1 National Long Distance

Source: TRAI, DoT, TSMG Analysis

2 International Long Distance

1.4.6. Power

The power generation capacity in India is 122 GW; 590 billion units produced (1 unit = 1kwh). According to CAGR of 4.6% over the last four years India has the fifth largest electricity generation capacity in the world. And yet, there is low per capita consumption at 606 units; less than half of China. Transmission and Distribution network of 5.7 million circuit km – the 3rd largest in the world. Coal-fired plants constitute 57% of the installed generation capacity, followed by 25% from hydel power, 10% gas based, 3% from nuclear energy and 5% from renewable sources.

1.5. Infrastructure Investment Requirement in India

India is expected to grow at an average 9 percent per annum in next few years.¹⁶ Accompanying this growth will be an increase in demand for infrastructure services. Economic and population growth prospects are expected to place additional pressure on existing infrastructure facilities. Therefore, addressing these challenges will be essential is the infrastructure sector is to continue fostering economic growth rather than becoming a constraint. In other words, a failure to respond to this demand will cause bottlenecks to growth and hamper poverty alleviation efforts.

¹⁶ Indian Economy Overview, Indian Brand Equity Foundation available at <http://www.ibef.org/economy/economy-overview.aspx> (last accessed April 01, 2010)

Table No.6: Requirement of Infrastructure Investments in India during 2007-11

Sectors	Anticipated Investment in 10th FYP (2002-2007)	Projected Investment in 11th FYP (2007-2011)	Percentage Change
	US\$ billion		%
Electricity	70.5	150.4	111.3
Roads and bridges	31.7	76.1	140.1
Telecom	22.5	65.1	189.3
Railways	20.3	62.2	206.4
Irrigation	32.1	53.1	65.4
Water and sanitation	15.6	48.6	211.5
Ports	1.3	18.0	1284.6
Airports	2.1	8.5	304.8
Storage	2.3	5.5	139.1
Gas	2.1	5.0	138.1
Total	200.5	492.5	145.6

Source: Government of India (2007) *Economic Survey 2006-07*, Ministry of Finance, New Delhi

To sustain 9 percent growth, the Government of India has estimated that an investment of over US\$ 492.5 billion during the 11th Five Year Plan (2007-2012). The infrastructure investment has increased in the past few years, driven by government initiatives and private participation, but that need to be escalated in coming years. Some of the important infrastructure investments are given in Table 2. The Government of India expects that 22-25 percent of the investment (of US\$ 384 billion) required is to come from private sector. According to the Committee on Infrastructure, headed by the Indian Prime Minister, these investments are to be achieved through a combination of public investment, public-private-partnerships (PPPs) and exclusive private investments, wherever feasible. To sum up, the Indian infrastructure space has gained much importance in the past few years, and provides immense opportunities for growth and development. Therefore, it is clear that there is substantial infrastructure needs in infrastructure sector in India, which, in other words, also offers large investment opportunities. Many of the new investments (such as gas pipelines) seem to be viable on commercial terms and should be suitable for partnership with private investors. For many other infrastructure investments also

Public-Private-Partnership (PPP) is emerging as the preferred instrument, where the private sector gets its normal financial rates of return while the public sector partner provides concessional funding based on the long-term direct and indirect benefits to the economy. New instruments such as Viability Gap Funding (VGF) through a special purpose vehicle (SPV) set up recently by the Government of India to fund mega infrastructure projects may be relevant for other Asian countries as well.

1.6. Conclusion

A prerequisite of quality and efficient infrastructure services is essential to realize the full potential of the emerging Indian economy. Therefore, the Government's main concern should be rising to the challenge of maintaining and managing high growth in India through investment in infrastructure sectors. To sustain 9 percent growth, the Government of India has estimated that an investment of over US\$ 492.5 billion during the 11th Five Year Plan (2007-2012) is required. Therefore, there is substantial infrastructure needs in infrastructure sector in India, which, in other words, also offers large investment opportunities. Public-Private-Partnership (PPP) is emerging as the preferred mechanism, where the private sector gets its normal financial rates of return while the public sector partner provides concessional funding based on the long-term direct and indirect benefits to the economy.

CHAPTER – 2

FUNDAMENTALS OF FINANCING INFRASTRUCTURE PROJECTS

2.1. Introduction

Project Finance is a method of financing in which a lender provides a non-recourse debt to a legally independent company for the specific purpose of undertaking the project. For, the lender, the source of repayment is the revenue generated by the project and the security is the asset created in the project. Since, project financing generally involves longer term maturity of loans, the risks involved are many and complex. It is necessary to understand some of the distinguishing characteristics of project finance to identify these tasks.

Firstly, in project finance large investment is required to create a single purpose capital asset. Secondly, the risk profile of a large project changes significantly between two phases of the project. Thirdly, the success of an infrastructure project depends on the co-ordination among large stake holders including regulators, government agencies, construction agencies and companies, construction companies and off-take purchasers of the project outcomes. The most important distinguishing characteristic of infrastructure project is changing nature of risk during the pre-completion phase of the project, the main risks that dominate the post completion phase are related to market and regulatory and political risks. So, the lenders need to identify risks and build risk mitigation strategies for these two phrases separately.

Infrastructure projects, which typically provide essential services, have one or more of the characteristics mentioned below¹⁷:

- Highly Capital Intensive
- Huge sunken costs
- Long operating Life

The vital role of infrastructure in the economy, the essential nature of services, the size of the individual projects and its important social dimensions call for governmental role in playing and promoting, and in ensuring independent regulation that provides a level playing field for both

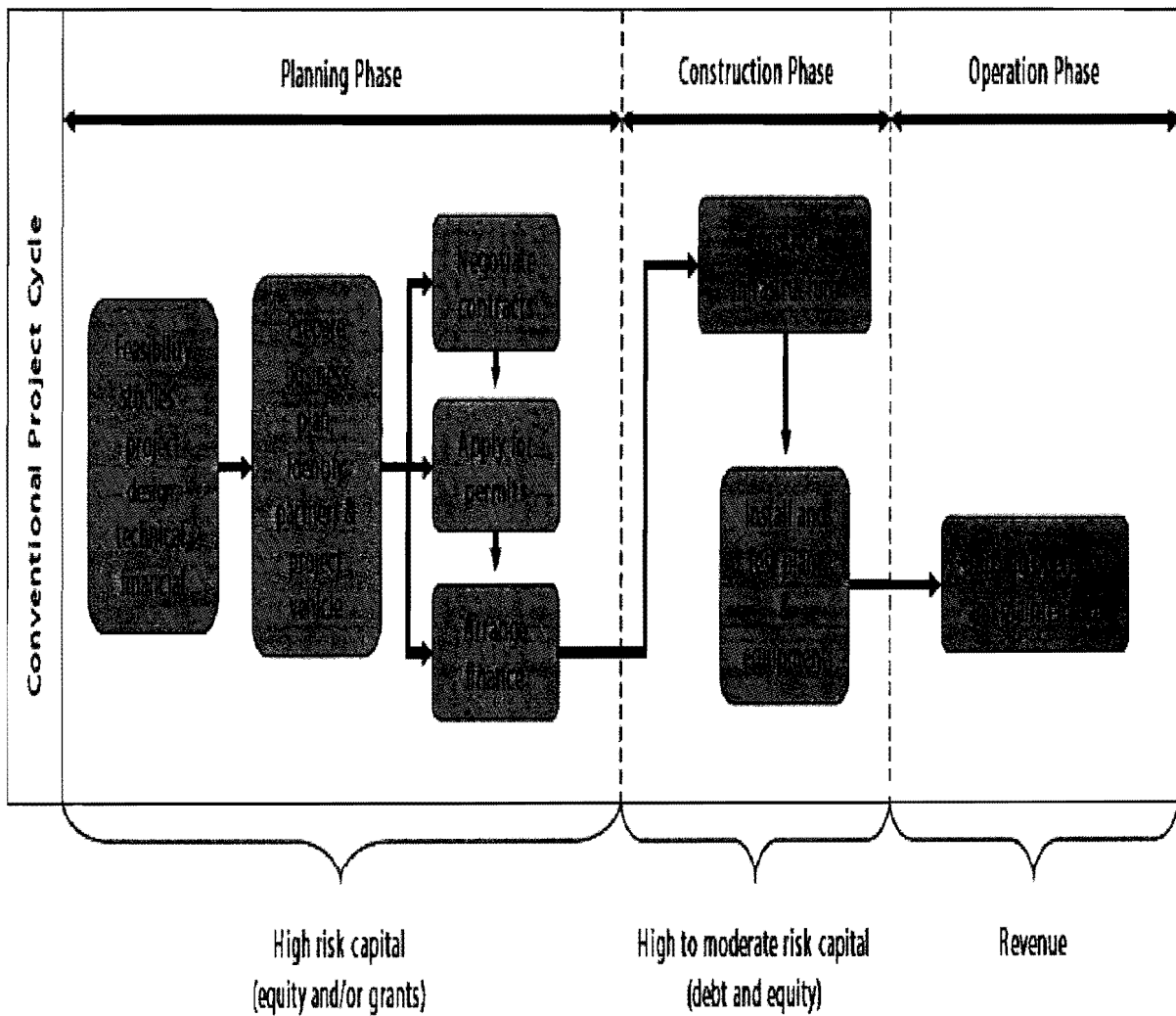
¹⁷ Prasanna Chandra, *Projects – Planning, Analysis, Selection, Financing, Implementation and Review*, 6th Ed. 2006, New Delhi: Tata Mcgraw Hill Publishing Ltd p. 19.1 – 19.2

public and private sector enterprises. When projects are operational the role of the government can be determined by the ownership and the operational structure of the concerned project.

2.2. The Conventional Project Cycle

The conventional project cycle can be broken down into three phases, with different forms of finance associated with each phase.

Figure No.1: Conventional Project Cycle



Source: The UNEP CD4CDM Project, The Guidebook on Financing a CDM Project

2.2.1. Planning Phase

- Feasibility studies:
- Project design
- Technical feasibility
- Financial feasibility
- Business plan
- Identify partners and project vehicle
- Contracts (fuel/technology supply, construction, operation, sales or other performance contracts)
- Permits (planning permission, health & safety, emissions permits and/or other environmental licences, subject to environmental impact assessment, if applicable)
- Finance (identify sources of finance, carry out risk assessment, management and mitigation)

2.2.2. Construction Phase

- Construct associated infrastructure, install and test plant & equipment

2.2.3. Operation Phase

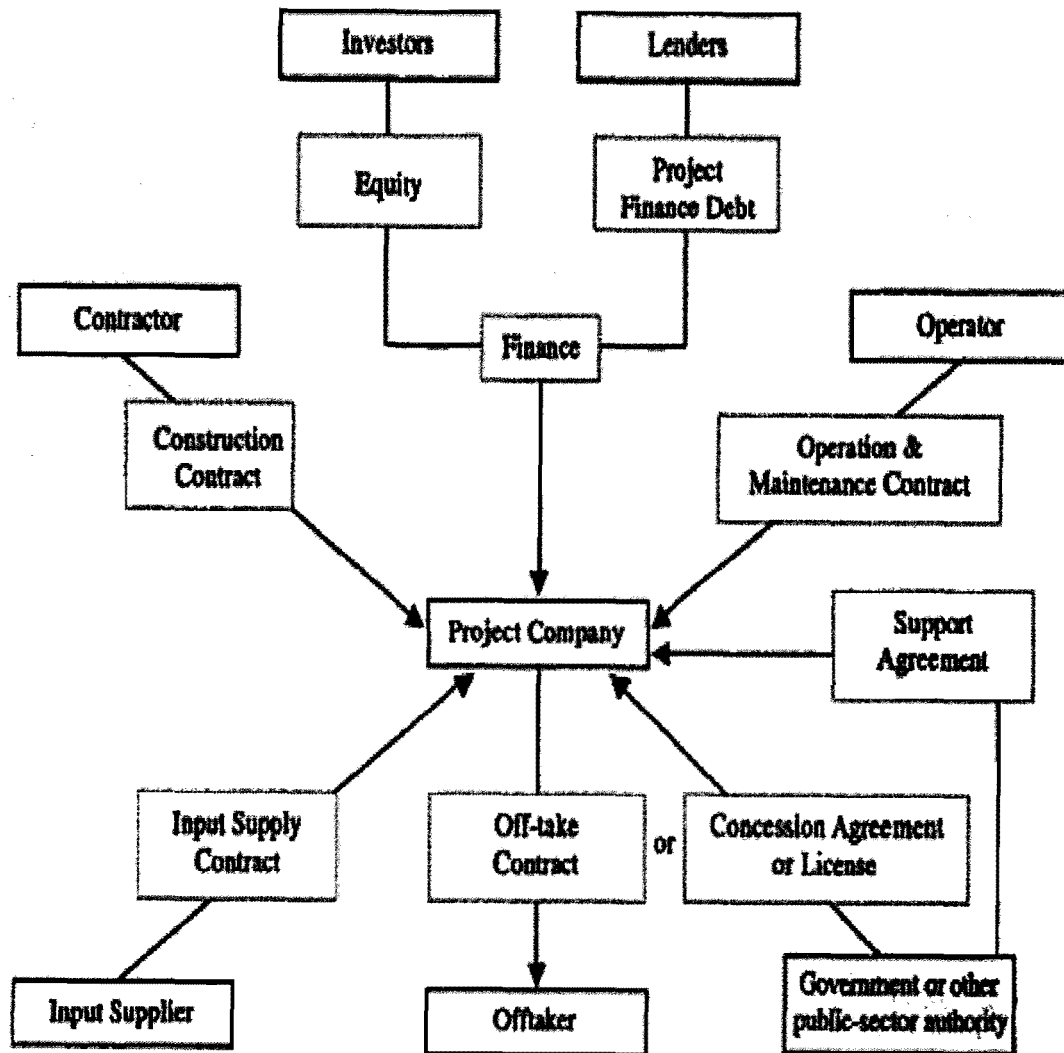
- Ongoing operation & maintenance

2.3. Key Project Parties

As the project moves from the developmental stages in financing and thereafter to construction and finally to options, several project parties¹⁸ get involved with the project. Some, like the financial advisors, exit once the financing is fully tied up and the project has drawn loans from the lenders and the equity from investors, while others like the EPC contractor is extensively associated with the project during the construction phase and by contract the “Defect Liability Period” post commercial operations. In any project there are a number of major parties and all of them have particular reasons to be involved in the project. The contractual arrangements between those parties, and the allocation of risks, can be complex.

¹⁸ Prasanna Chandra, *Projects – Planning, Analysis, Selection, Financing, Implementation and Review*, 6th Ed. 2006, New Delhi: Tata Mcgraw Hill Publishing Ltd. p. 19.3 – 19.5

Figure No.2: Key Parties in Project Finance



Source: Yescombe E.R. 'Principles of Project Finance'

2.3.1. Project Sponsor: The sponsor is the party, usually a consortium of interested groups (typically including a construction group, an operator, a financing institution, and other various groups) which prepares the proposal to construct, operate, and finance, the particular project. The sponsor may take the form of a company, a partnership, a limited partnership, a unit trust or an unincorporated joint venture. They are responsible for converting a concept into a project and have a role in setting up a project vehicle, identifying and recruiting right managerial talent to

implement and run the project, providing a clear mandate to such management on their expectations, and finally subscribing to a significant proportion of equity in the project vehicle.¹⁹

2.3.2. Project Vehicle: The SPV (special purpose vehicle) is responsible for delivering a bankable project during the financing phase, implementing the project and thereafter operating it in a manner that is financially viable. It selects and appoints all the project contractors, negotiates and executes the contracts, raises the financing, supervises the construction and commissioning, and operates the project either directly or through an Operations & Maintenance (O&M) Contractor.²⁰

2.3.3. Government Agency: A government department or statutory authority is a pivotal party. It will:

- grant the sponsor the "concession", that is the right to build, own and operate the facility,
- grant a long term lease of or sell the site to the sponsor, and
- often acquire most or all of the service provided by the facility.

The government's co-operation is critical in large projects. It may be required to assist in obtaining the necessary approvals, authorizations and consents for the construction and operation of the project. It may also be required to provide comfort that the agency acquiring services from the facility will be in a position to honour its financial obligations. The government agency is normally the primary party. It will initiate the project, conduct the tendering process and evaluation of tenders, and will grant the sponsor the concession, and where necessary, the off-take agreement.²¹

2.3.4. Construction Contractor: The construction company may also be one of the sponsors. It will take construction and completion risks, that is, the risk of completing the project on time, within budget and to specifications.

2.3.5. Operation and Maintenance(O&M) Contractor: As the name suggests, the O&M contractor is responsible for operating and maintaining the plant in line with industry best practices. Performance parameters that need to be achieved during operations are pre-defined in

¹⁹ *Supra* note 11

²⁰ *Supra* Note 11

²¹ UNEP Project CD4CDM, Guidebook to financing CDM Project, UNEP available at <http://www.cd4cdm.org/Publications/FinanceCDMprojectsGuidebook.pdf> ISBN 978-87-550-3594-2 (last accessed April 04, 2010).

the O&M contract and the O&M contractor provides managerial skills and operational experience to achieve and possibly surpass the agreed parameters. Further, the O&M contractor will be expected to sign a long-term contract with the sponsor for the operation and maintenance of the facility.²²

2.3.6. Project Lenders: Project Lenders provide debt to finance the construction of the project. In a large project there is likely to be a syndicate of banks providing the debt funds to the sponsor. The banks will require a first security over the infrastructure created. The same or different banks will often provide a stand-by loan facility for any cost overruns not covered by the construction contract. Typically, a consortium of project lenders, led by a “lead bank”, ascertain a bankable project cost and in consultation with the SPV and the project sponsors a “Means of Finance” to finance the same, disburses debt, and performs a monitoring role during the construction phase and on commissioning monitors the performance and operations of the project till all debt is repaid.

2.3.7. Other Parties

Other parties such as insurers, equipment suppliers and engineering and design consultants will also be involved. Most of the parties too will involve their lawyers and financial and tax advisers.

- **Supplier:** Various companies will supply goods and services to the project. Lenders will generally prefer supplier agreements and contracts to be in place for the delivery of essentials such as fuel and equipment. Equipment suppliers will generally be required to have a track record of supplying the relevant equipment and to provide equipment performance guarantees.
- **Insurer:** Insurers can assist in identifying and mitigating risks associated with the project. If a risk is to be mitigated by purchasing insurance, the lender will need to be satisfied as to the track record and credit-worthiness of the insurer.
- **Rating Agency:** The rating agencies (e.g. Moody’s, Standard & Poor’s, Fitch Ratings) may be involved if the financing of the project involves the issue of securities.
- **Experts:** Project sponsors and lenders will often call upon external experts to advise them on key technical, engineering, environmental and risk aspects of a project. Experts need to be able to demonstrate a track record of expertise in the relevant area.

²² *Supra* Note 11

2.4. Mobilizing Finance

In general, the largest costs associated with a project are incurred at the construction stage, where even a relatively small engineering project can cost many millions of dollars. At this stage, for a commercially viable project, lenders and investors will only provide finance on the expectation that, on completion of construction and commissioning, the project will go on to generate revenue. This revenue should at least be sufficient to cover ongoing operation and maintenance costs for the operation phase, and also to provide a commercial return to the lenders and investors.

From the perspective of the lender the risk of financing a project does not drop significantly until after the project is commissioned, and this will affect the terms of financing. In some cases, lenders require independent proof of technical completion of the project and/ or proof of financial completion in the form of significant project revenues, in order to adjust financial terms, such as the interest rate of a loan.

During the early stages of planning a project, the chances of the project not proceeding (for example because the necessary permits cannot be obtained), and therefore not generating any future revenue, are significantly higher. Therefore, although the costs associated with the planning stage (typically in the hundreds of thousands of dollars) are much lower than construction costs, the risk is much higher and different forms of finance are required, as shown in Figure above. The different forms of finance available for the planning and construction phases are discussed in further detail below.

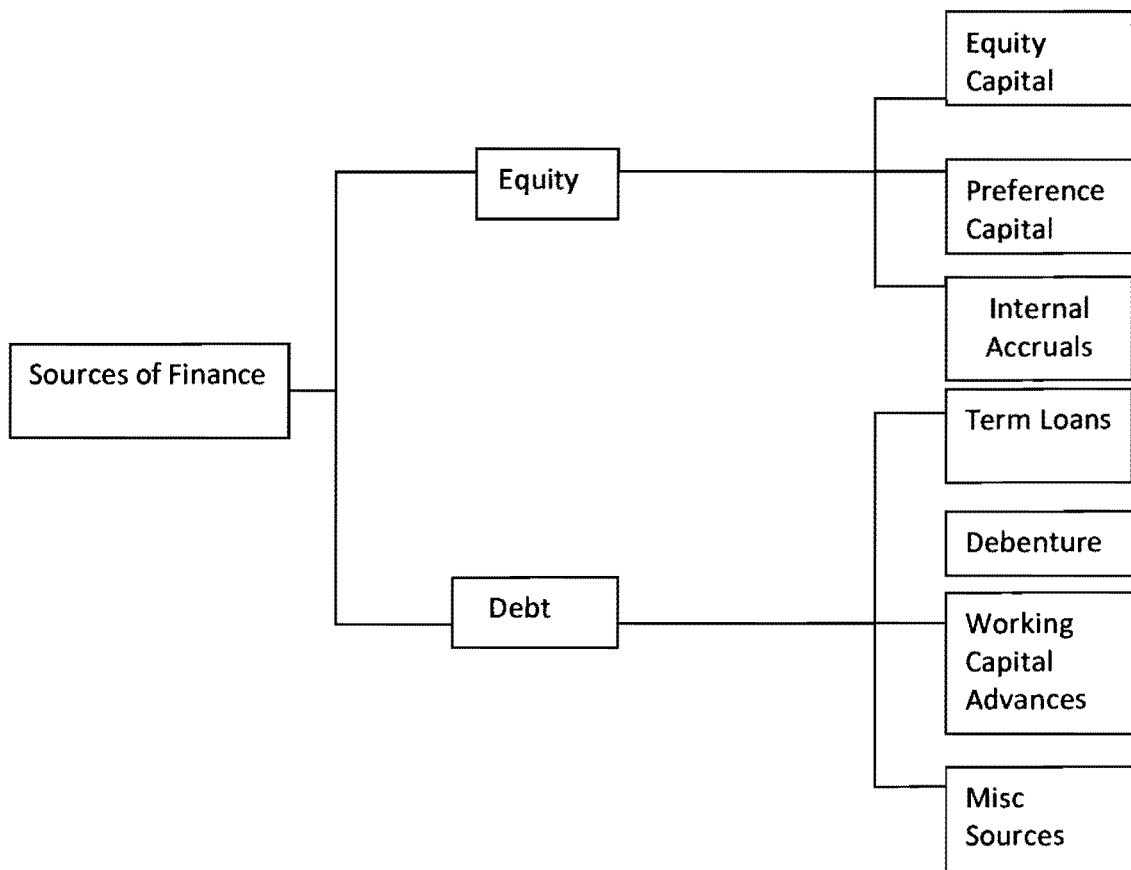
Depending on the type of financing, the project sponsor will have to present different kinds of data and documentation to the lender at different stages. For example, for project financing, a minimum requirement for international banks is a business plan which includes at least feasibility studies, financial statements and financial projections. For corporate finance on the other hand, relationship banks may be more focused on collateral and long-term client relationships.

Similarly, there are a number of important milestones that the project sponsor will have to consider. Banks will consider requests for project financing only at a relatively advanced stage of the project cycle. For example, while it is useful to make contact with financial institutions at a pre-feasibility stage to identify potential interest, they will require the project to have feasibility studies completed and essential permits/licences granted before appraising a project for possible financing.

2.5. Sources of Finance

In general, there are three forms of finance that can be used to develop projects: grants, loans (debt) and equity. Most projects will incorporate a varying mix of two or more of these sources of finance. This is graphically explained in Figure No.3.

Figure No. 3: Sources of Finance



2.5.1. Grants

A grant is an amount of money provided by a third party to a project, person or organisation that contributes to the objectives of the third party. In general, grants are provided to projects that are commercially marginal, and they do not need to be repaid (provided the stated purpose of the grant funding is achieved). However, in some cases grants may be convertible to loans or equity if the project achieves commercial success (if so, this will be stated in the terms and conditions of the grant). Grants are typically provided by government organisations and only cover a percentage of project costs, other forms of finance are also therefore required.²³

2.5.2. Loans (debt)

A loan or debt is an amount of money provided by a third party to a project, person or organization that must be repaid either during or at the end of its agreed term, plus interest over the period of the borrowing. The majority of loans to projects are provided by banks.

There are many different types of loans, including:

- a. **Senior loans or debt:** The 'senior' debt is the debt which must be serviced before any other debt or equity in the project. This is generally a precondition of loans by large local or international banks. The debt is usually secured over the assets of the project, which can include the contracts for sale of outputs from the project. However, it may also be secured over the assets of a project sponsor. Because the debt ranks highest in priority for repayment and is secured over assets, it has the lowest risk of the commercial financing instruments, and hence usually represents the cheapest source of capital. The interest rate will typically be based on the interest rates prevailing in the market for the currency in question, plus a margin depending on the perceived risk of the project.

Other variables in a loan include fixed or floating interest rates, the term of the loan, 'stepped' interest rates over the term, the repayment schedule, interest and/or repayment 'holidays', and agreed 'trigger points' at which the bank can make certain demands on the borrower to safeguard its investment, culminating in bankruptcy proceedings if necessary.

²³ UNEP Project CD4CDM, Guidebook to financing CDM Project, UNEP available at <http://www.cd4cdm.org/Publications/FinanceCDMprojectsGuidebook.pdf> ISBN 978-87-550-3594-2 (last accessed April 04, 2010).

- b. Junior (or subordinate) loans or debt:** The 'junior' or 'subordinate' debt has priority for repayment after senior debt (but still before equity). It is either unsecured, or has a lower priority claim over the assets of the project than senior debt. This type of loan is often used to bridge the gap between what senior debt lenders are willing to provide and the equity that is available for a project. As the risk of non-payment is higher than for senior debt, junior debt requires a higher rate of return (interest rate). Alternatively, lenders of junior debt may expect to share some of the potential 'upside' of a project by holding options to convert the debt to equity if the project exceeds expectations (see explanation of mezzanine finance below).
- c. Low interest loans or debt:** Loans at preferential (below market) rates may sometimes be obtained from multilateral banks for projects which meet particular economic, social or environmental objectives.
- d. Up-front payments:** For some projects, a buyer of some of the outputs from the project may be willing to pay up-front for future delivery of those outputs. Such up-front payments can be used to finance the project's up-front costs. The advantage of this form of finance is that it does not need to be repaid in cash, only 'in kind'. The disadvantage is that the buyer will typically expect a substantial discount on the future price of the output, in order to reflect both the cost of capital (i.e. the cost of providing cash now rather than at some point in future) and the risk of non-delivery.
- e. Lease finance:** Lease finance is similar to senior debt, except that instead of lending cash, the lessor 'lends' (or rather, leases) an asset (e.g. land, buildings or equipment) in return for an agreed cash flow or 'rent'. The lessor continues to own the asset and can reclaim it in the event of non-payment by the lessee. Depending on the terms of the lease, the lessee may or may not have the option to convert the lease to full ownership on payment of a final amount at the end of the lease. Lease financing is often provided by equipment manufacturers in order to facilitate the purchase of an asset by the project.

2.5.3. Equity

Equity is capital raised from shareholders. Shareholders have only a residual claim to the assets of the project company – in other words, they are last in line after other stakeholders such as senior and junior lenders have been repaid. This represents the highest level of risk, and the

expected returns for equity holders are accordingly higher than for lenders. From the project developer's point of view, equity has the advantage of not having to be paid back, thereby freeing up cash flow, which is often particularly important during the early years of a project. Equity providers receive returns through dividends (distributions of cash from after-tax profits), or from the sale of shares. Typically, equity providers will only cover part of a project's total cost, as the rate of return on equity can be increased ('geared' up or 'leveraged')²⁴ by increasing the amount of debt in the project finance structure.

The above argument ignores any effect of taxation. In fact, in most countries, interest payments on debt are a tax-deductible expense. This further enhances the attractiveness of debt in the capital structure, since the cost of debt is even lower due to the 'tax shield' effect (i.e. the fact that interest payments can offset a tax liability).

In principle, equity financing could be obtained from development finance institutions or from universal banks. Among the virtues of obtaining finance directly from equity markets are²⁵: (1) Risk is spread across more shoulders so that riskier, higher-return projects can be financed; (2) The market is not dominated by one bureaucratic view, so that many varieties of technologies are financed, with some doomed to fail and others becoming a Google or Infosys; (3) Control is not concentrated in a few financial institutions which could limit competition in the market. Equity can come from many different sources, and different providers will have different expectations as to the degree of control they wish to exercise and the risk and return on their investment. Some of the principal sources of equity for projects include:

a) **Project sponsors**

²⁴ The term 'gearing' or 'leverage' is used to describe the way in which the returns to an equity investor can be increased by increasing the amount of debt in a project's capital structure. This effect arises due to the fact that debt is almost always cheaper than equity. Consider a project with a capital requirement of US\$1,000,000 and a project internal rate of return of 15%. If 100% of this capital requirement were provided by equity investors, the equity investors would therefore see a 15% return on their investment. However, if 50% of a project's capital requirement could be borrowed from a bank at an interest rate of 8%, the project would provide a return of 22% to the equity investors (their original return of 15% on US\$500,000, plus the 7% return remaining on the other US\$500,000, after debt financing costs). From the equity investors' point of view, increasing the amount of debt in the capital structure will always increase the return on their equity investment, provided the debt interest rate is lower than the project IRR).

²⁵ Report of the Committee on Financial Sector Reforms under the Chairmanship of Shri Raghuram Rajan, Ministry of Finance, Government of India, 2009 p.104.

- b) **Venture Capital Funds:** These could help finance a project or series of projects by making an equity investment in a project development company. Venture capital is so named because it is typically invested or 'ventured' in the start-up stage of a company's development, before products and markets are proven, and the capital provided is therefore at high risk. In return, venture capital funds require a high rate of return, which they obtain by taking equity in a number of companies, some of which they hope will be highly successful. Typical venture capital investments are usually in the range of US\$1–10 million. It would be unusual for a venture capital fund to invest in a single project (as opposed to a company), although some of the higher return infrastructure projects (e.g. Power projects) could potentially attract sufficient interest on a single project basis.
- c) **Private equity funds:** Project developers seeking funding for an Infrastructure project could be supported by a private equity company, which could purchase a proportion of the (non-listed) equity of the company or the SPV.
- d) **Share issue via a stock market:** Project developers could consider issuing stock on the stock market or consider issuing additional stock to the already listed stock of the company. In general this option is not pursued for individual projects, but may be an option for new companies with a portfolio of similar projects to develop.

2.5.4. Mezzanine Finance

Mezzanine finance bridges the gap between equity and bank debt. As a hybrid product, mezzanine shares characteristics with both bank debt and equity.²⁶ As such, it can be seen as 'middle-risk – middle-return' financing. A mezzanine investment can be structured in various forms. Although typically a subordinated loan (see 'junior debt' above), it may also comprise preference shares or convertible bonds. Mezzanine pricing typically comprises two distinct elements. The first is a current yield that the mezzanine investor contractually receives and so is similar to interest on bank debt. The interest margin is typically higher than bank debt, however (the margin may be 3-4%, or higher), and the overall rate can be either fixed or floating. It will

²⁶ Mezzanine Debt means when a hybrid debt issue is subordinated to another debt issue from the same issuer. Mezzanine debt has embedded equity instruments (usually warrants) attached, which increase the value of the subordinated debt and allow for greater flexibility when dealing with bondholders. Mezzanine debt is frequently associated with acquisitions and buyouts, where it may be used to prioritize new owners ahead of existing owners in case of bankruptcy. Source: www.investopedia.com (last accessed April 04, 2010)

usually be paid in cash on specified payment dates, or may be rolled up and paid at some future point. The second component can be a warrant or option on the ordinary shares, or some other mechanism that provides an interest in the equity of the business. Unlike the yield component, the second mechanism does not contractually bind the business into paying any pre-determined amount to the mezzanine investor, and its value (or cost) is only meaningful if the business thrives.

2.6. Typical Financing Models

The most common structures used to finance projects are²⁷:

- a. Project financing (in the specific sense of the term) – also known as limited recourse financing;
- b. Corporate financing; and
- c. Lease financing.
- d. Bridge Financing
- e. Micro Credit
- f. Leveraged Finance

2.6.1. Project Finance

There cannot be any general definition of the term 'Project Finance'. The term 'project finance' (or 'project financing') refers to financing structures wherein the lender has recourse only or primarily to the assets of the project and looks primarily to the cash flows of the project as the source of funds for repayment. The terms 'limited recourse finance'²⁸ and 'non-recourse finance' are often used interchangeably with 'project finance', although strictly speaking these terms describe different extents of recourse back to the project sponsors.²⁹ In project finance, the

²⁷ The UNEP Project CD4CDM, Guidebook to financing CDM Project, UNEP available at <http://www.cd4cdm.org/Publications/FinanceCDMprojectsGuidebook.pdf> ISBN 978-87-550-3594-2 (last accessed April 04, 2010)

²⁸ The terms full 'recourse' and 'limited recourse' finance can be defined as:

- Full recourse finance refers to the right of the lender to take any assets of the borrower if repayment is not made. A limited recourse finance only allows the lender to take the assets named in the loan agreement.
- Limited recourse has financing secured primarily by the project and by additional reassurances from the sponsors.

²⁹ In practice, strict non-recourse financing is rare, and there is usually some limited recourse back to the project sponsor, for example through the provision of guarantees or other undertakings to cover specific risks (Denton Wilde Sapte, 2004).

project, its assets and its cash flows “are segregated from its promoters or sponsors in order to permit a credit appraisal and loan to the project, independent of its credit sponsors.”³⁰

The US Financial Standard FAS 47 defines Project Finance as follows: *‘The financing of major capital projects in which the lender looks principally to the cash flows and earnings of the project as the source of funds for repayment and to the assets of the project as collateral for the loan. The general credit of the project entity is usually not a significant factor, either the entity is a corporation without other assets or because the financing is without direct recourse to the owner(s) of the entity.’*

Project Finance has also been defined as *“The Financing of the development or exploitation of a right, natural resource or other asset where the bulk of the financing is to be provided by way of debt and is to be repaid principally out of the assets being financed and their revenue.”*³¹ Since, the lender looks towards the successful generation of revenues by the project in order to recover their money, the risk profile of the investment changes drastically along with the need to be protected.³²

In the recent years, the term project finance has evolved to have a more precise definition: *“A financing of a particular economic unit in which a lender is satisfied to look initially to the cash flows and earnings of that economic unit as a source of funds from which a loan will be repaid and to the assets of the economic unit as collateral for the loan.”*³³

The technique of project financing was pioneered in the construction of the Panama Canal, as well as the early development of railroads and oilfields in the US and UK – large-scale, capital-intensive projects with long payback periods. In recent decades it has become the financing model of choice for most large infrastructure, energy and other industrial and public service projects.

³⁰ Peter K. Nevitt (1983), *‘Project Financing’* 4th Edition, London: Euromoney Publications, p.1.

³¹ Vinter Graham D. (1999), *‘Project Financing: A Legal Guide’*, 2nd Edition, pp. xxxi, London: Sweet and Maxwell.

³² Joshi Piyush(2003), *‘Law Relating to Infrastructure Projects’*, 2nd Edition, New Delhi: Butterworths Publications.

³³ Peter K. Nevitt & Frank J. Fabozzi (2000), *‘Project Financing’*, 7th Edition, London: Euromoney Books, p. 1.

Under project financing, an SPV is usually established to undertake the project and to clearly define the legal limits of the project entity. The SPV enters into contracts with suppliers and buyers, and with companies to provide construction, operation and other specialised services. A simplified diagram of the relationship between the various parties in project financing has been shown above.

Features of Project Finance

Project finance structures differ between various industry sectors and from deal to deal: there is no such thing as “standard” project finance, since each deal has its own unique characteristics. But there are common principles underlying the project finance approach. Some typical characteristics of project finance are:³⁴

- It is provided for a “ring-fenced” project (i.e. one which is legally and economically self contained) whose only business is the project. (the ‘Project Company’)
- It is usually raised for a new project rather than an established business.
- There is a high ratio of debt to equity (“leverage” or “gearing”) – roughly speaking, project finance may cover 70- 90% of the cost of a project.
- There are no guarantees from the investors of the project company (‘non-recourse’ finance) or only limited guarantees (‘limited – recourse’ finance) for the project finance debt
- Lenders rely on the future cash flow projected to be generated by the project for interest and debt repayments, rather than the value of its assets or analysis of historical financial results.
- The main security for lenders is the project company’s contracts, licenses, or ownership of rights to natural resources; the project company’s physical assets are likely to be worth less than the debts if they are sold off after a default on financing.

The principal advantages of the project finance structure are:

- **Ability to raise large amounts of capital.** The structure enables large amounts of debt to be raised for capital-intensive projects.

³⁴ Yescombe E.R. (2002), *Principles of Project Finance*, California: Academic Press p.7

- **Limited recourse** to assets of project sponsors: since the lenders only have recourse to the assets and cash flows of the project, rather than the general resources of the sponsors.
- **Off-balance-sheet Financing.** If the investor has to raise the debt and then inject it into the project, this will clearly appear on the investor's balance sheet. A project finance structure may allow the investor to keep the debt off the consolidated balance sheet, but usually only if the investor is a minority shareholder in the project – which may be achieved if the project is owned through a joint-venture.
- **Risk Limitation.** An investor in a project raising funds through project finance does not normally guarantee the repayment of the debt – the risk is therefore limited to the amount of the equity investment. A company's credit rating is also less likely to be downgraded if its risks on project investments are limited through a project finance structure.

The disadvantages of the project finance structure include:

- **Set-up costs:** The costs of setting up the project finance structure can be significant, and can generally only be justified for larger scale projects (e.g. US\$20 million plus).
- **Project-specific risk assessment and management:** Both lenders and equity providers must pay particularly close attention to the project-specific risks, and how those risks will be managed. This is in contrast with conventional lending, where the lender would primarily be concerned with the overall credit-worthiness of the borrower.

As a general principle, project sponsors and other equity providers will wish to minimize the amount of equity in the project, as this will increase the rate of return on their investment. The lender, on the other hand, will want to ensure that the equity providers have a sufficiently large financial interest in the project to ensure that they will not abandon it – the larger the equity commitment, the lower the lender's risk will be. Through the process of financial assessment (described in greater detail in chapter below), the lender carefully evaluates the project economics, risks and risk management options for the project, before deciding on whether to finance the project, and if so, to what extent and at what cost (interest rate). A successful outcome is more likely to be achieved if project sponsors work closely with the lender through the financial assessment process to ensure that both parties share a common understanding of the project risks and agree on mutually acceptable risk management solutions. There may be trade-offs between the amount and cost of debt and the cost of risk management options for the project

sponsor. For example, a lender will prefer the project to have a purchase agreement in place that guarantees a certain minimum price for the output of the project. However, obtaining such a purchase agreement may cost the project sponsor much of the potential 'upside' in the price of the output. Therefore the project sponsor may wish to negotiate to maintain a floating purchase price in return for increasing the amount of equity in the project (i.e. reducing the debt required from the lender).

A typical project finance structure in an industrialized country would consist of 10–30% equity, 60–90% senior debt, and 0–15% junior debt. In developing and emerging markets, a project finance structure will usually consist of more equity and less debt. Whether or not any junior debt is required to bridge the gap between equity and senior debt essentially depends upon the level of risk associated with the project – riskier projects will find it more difficult to raise senior debt, and hence are more likely to experience a funding gap.

2.6.2. Corporate Financing

Corporate financing, also known as on-balance sheet financing, is the use of internal company capital to finance a project directly, or the use of internal company assets as collateral to obtain a loan from a bank or other lender. The advantages of corporate financing over project financing include:

- **Faster access to capital:** A company's internal capital allocation procedures should, in theory, be quicker at coming to a decision as to whether or not to invest in a project than an external lender, and even if external debt is required, a decision based on the creditworthiness and assets of the company will be achieved more rapidly than a decision that depends on the due diligence of the cash flows and assets of a project.
- **Confidentiality:** Keeping the financing of a project internal, or at arm's-length by corporate borrowing rather than project financing, may help if the project sponsor is concerned about potential leaks of information about the project to competitors (or any other parties).
- **Availability:** Quite simply, corporate financing may be one of the only financing options available for projects which are too small, too risky, or which involve counterparties which are not creditworthy for project financing to be possible.

The disadvantages of corporate financing include:

- **Liability:** The Company is liable for any failure of the project and both internal capital and assets may be at risk if the project fails to perform to expectations.
- **Funding limits:** The amount of capital available will be limited either by internal budget constraints or by the company's ability to borrow (e.g. 60–90% of the company's assets).
- **Limited ability to transfer risks:** There may be less scope to transfer risks to other parties.

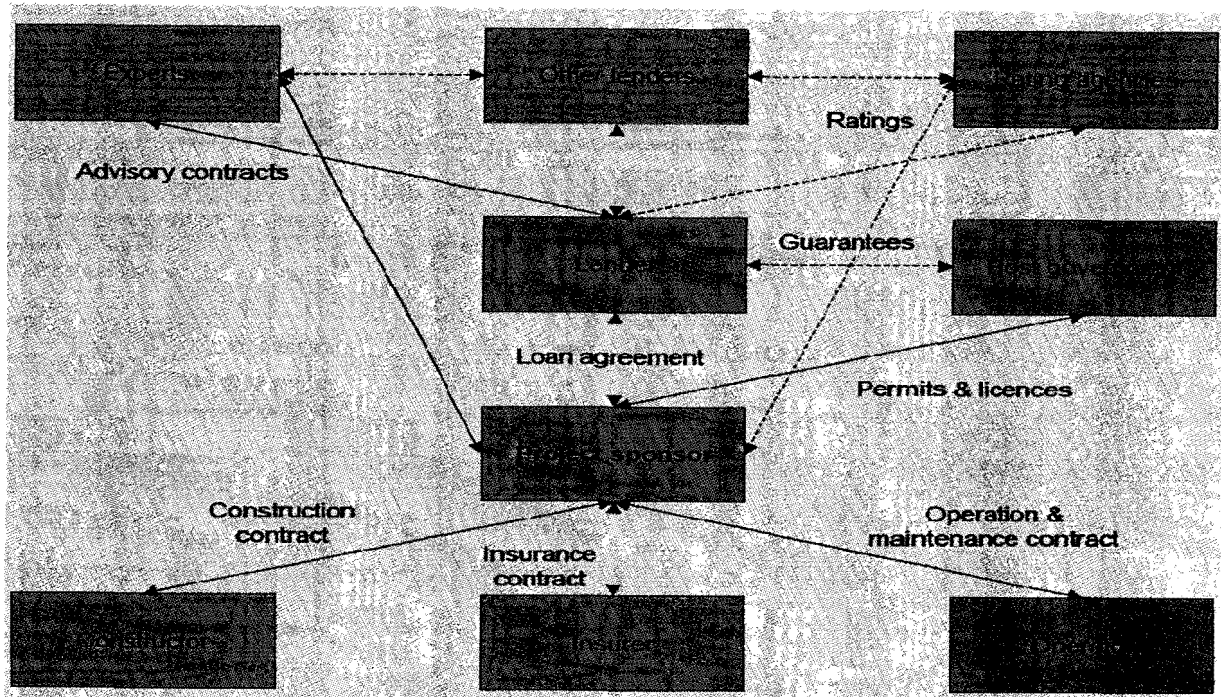
Example: Corporate Financing of an Industrial Energy Efficiency Project

Company X owns and operates a large industrial plant such as an oil refinery or chemicals plant. An opportunity might exist to improve the energy efficiency of one of the processes by installing a new piece of equipment, costing say US\$10 million. Implementing the project will save the company money (reducing energy costs, say by US\$1 million/year). If the investment is well planned and the company sufficiently large, the company might be able to finance such a project entirely from its own reserves. Alternatively, the company could borrow part of the capital from a bank (or syndicate of banks), with its broader assets as collateral for the loan – provided the company is sufficiently credit-worthy.³⁵

In such a scenario, several roles which would be distinct under a project financing model are collapsed into one. Company X, the project sponsor, is also the project entity, the 'supplier' of the industrial process the project is based upon, and the 'buyer' of the energy savings 'produced' by the project. It could also be the constructor and operator of the new equipment.

³⁵ UNEP Project CD4CDM, Guidebook to financing CDM Project, UNEP available at <http://www.cd4cdm.org/Publications/FinanceCDMprojectsGuidebook.pdf> ISBN 978-87-550-3594-2 (last accessed April 04, 2010).

Figure No.4: Role of Parties in Corporate Financing



2.6.3. Lease financing

Leasing essentially involves the supplier of an asset financing the use and possibly also the eventual purchase of the asset, on behalf of the project sponsor.³⁶ Assets which are typically leased include land, buildings, and specialized equipment. Ownership of the asset remains with the lessor unless purchased by mutual agreement at the end of the lease. A lease may be combined with a contract for operation and maintenance of the asset. It may also be a sub-set of a broader financing model (e.g. project finance or corporate finance).

The advantages of leasing include:

- **Less stringent requirements:** The requirements for entering into a lease are relatively less onerous than those for obtaining bank debt.
- **Limited liability:** The total liability to the project entity is generally significantly less than the total cost of the asset (depending on the terms of the lease – for example, the penalty for breaking a lease before full term could vary from the full cost of the remainder of the lease to a fraction based on a minimum notice period).

³⁶ Prof. Ram M. Shrestha, 'Lecture 8: Financing Mechanisms for Renewable Energy', Asian Institute of Technology 2007 available at <http://www soi wide ad jp/class/20070041/slides/09/7.html> (last accessed April 04, 2010)

The disadvantages of leasing include:

- **Need for minimum level of credit-worthiness:** Lease finance is only possible when the project entity can establish a minimum level of credit-worthiness to satisfy the lessor. A 'bond' or up-front deposit may be required, and the lease payments will include (whether implicitly or explicitly) a 'risk premium' determined by the lessor to compensate for both their cost of capital and the risks involved in having their assets in the hands of a third party.

Example: Lease finance for automobiles

Automobile manufacturers and retail outlets often offer customers a range of financing options, from personal loans (usually provided by a third party financing company) to 'hire purchase' or leasing schemes. Under a hire purchase scheme, the customer pays a monthly rental fee, with ownership transferring to the customer at the end of the contract, usually on payment of a final lump sum.

2.6.4. Bridge Financing

Bridge financing is a form of loan which, as the name suggests, is used to bridge the gap between times when other forms of finance are available.³⁷ For example, bridge financing may be used during the construction period of a project, to provide short-term cash (albeit at a relatively high interest rate), which is then replaced with lower-cost sources of financing (e.g. long-term senior debt) once the project is up and running. Bridge financing is more likely to be available from local financial institutions in developing countries, which may have short-term liquidity but not sufficient long-term liquidity to offer a long-term loan.

The principal advantage of bridge financing is:

- **Availability of cash at short notice:** This model is suitable for borrowers who have a need for short-term cash and can be sure that within a limited time, the capital required to repay the loan will become available.

The disadvantages of bridge financing include:

- **Higher interest rate:** Due to the short-lived nature of a bridge finance loan (usually less than one year), the interest rate the bank charges on the loan is usually higher. The

³⁷ Available at <http://www.investopedia.com/terms/b/bridgefinancing.asp> (last accessed April 04, 2010)

principal is usually paid back in a lump sum at the end of the bridge financing period, once the funds to cover the loan are available.

- **Secured over assets:** A bridging loan is generally secured over the project sponsor's assets, which would then be at risk if the loan could not be repaid.

2.6.5. Micro-credit

Micro-credit is similar to traditional bank debt, but aimed at providing very small amounts of credit to lenders with limited ability to pay, particularly in rural areas of developing countries. Some microcredit models rely on peer group lending – borrowers form a group that then applies for the loan, and the entire group is responsible for payment of the loan. Many focus on women as the primary lenders, having found that women are generally a good credit risk and that loans to women tend to benefit the whole family. One of the most successful examples of a micro-credit institution, Grameen Bank in Bangladesh, has, since the mid-1970s, issued over US\$5 billion in loans to several million small borrowers, and is famous for its 94% collection rate on loans, 96% of which have been issued to women. The Grameen Bank has branched out into financing other projects that benefit the poor, such as irrigation, telecommunications and energy projects.

2.6.6. Leveraged Finance

Although the term 'leveraged finance' can mean different things, it generally includes two main products – leveraged loans and high-yield bonds. Leveraged loans, which are often defined as credits priced 125 basis points (i.e. 1.25%) or more over a benchmark rate such as the London Inter-Bank Offer Rate (LIBOR), are essentially loans with a higher rate of interest to reflect a higher risk posed by the borrower. High-yield or 'junk' bonds are those that are rated below 'investment grade', i.e. less than triple-B.

Leveraged finance essentially means funding a company or business unit with more debt than would be considered normal for that company or industry.³⁸ More-than-normal debt implies that the funding is riskier, and therefore more costly, than normal borrowing. As a result, levered

³⁸ Prof. Ian Giddy, 'What is leveraged finance' available at <http://giddy.org/dbs/structured/LevFinarticle.htm> (last accessed April 04, 2010)

finance is commonly employed to achieve a specific, often temporary, objective: to make an acquisition, to effect a buy-out, to repurchase shares or fund a one-time dividend, or to invest in a self-sustaining cash generating asset. A key instrument in much leveraged finance, particularly in leveraged buy-outs, is mezzanine debt.

CHAPTER – 3

FINANCIAL ASSESSMENT OF A PROJECT: DEVELOPMENT OF PROJECT MODEL, ANALYSIS OF FINANCIAL INDICATORS, SENSITIVITY ANALYSIS & RISK ASSESSMENT AND MITIGATION

3.1. The Financial Assessment Process

This Chapter provides a general introduction to a typical financial assessment process conducted by financial intermediaries, broadly applicable to any project. The financial assessment process is a standard methodology for evaluating a project's financial viability, from an investor's perspective. The financial assessment of a project forms part of an investor's 'due diligence', or the overall process of investigation into the details of a proposed investment. Other aspects of the due diligence process would include an assessment of the ability of the management team to carry out the project, investigation of the technology involved, and ongoing monitoring of the implementation of the project post-financing. Here, we focus on the financial assessment process, pre-financing. The key steps in the financial assessment process are:

- Development of a project model;
- Analysis of financial indicators;
- Sensitivity analysis; and
- Risk assessment and mitigation.

3.2. Development of a Project Financial Model

A financial model is the most critical element of the financial assessment process. Most financial models are structured in a similar way and have the following features³⁹ (whether created as a project specific spreadsheet model or using an off-the-shelf project finance package):

1. Assumptions – all of the input variables to the model are usually kept together in one worksheet. Assumptions may be based on expert knowledge, forecasts, technical performance specifications, contract prices or other sources. The source of each assumption needs to be clearly identified so that investors can assess whether the assumption is reasonable.

³⁹ UNEP Project CD4CDM, Guidebook to financing CDM Project, UNEP available at <http://www.cd4cdm.org/Publications/FinanceCDMprojectsGuidebook.pdf> ISBN 978-87-550-3594-2 (last accessed April 04, 2010).

2. Calculations – the input variables are combined in a number of calculations, including tax, depreciation/amortization, loan balance and interest payments, and revenue and operating costs.
3. Outputs – in general, the outputs of a financial model will include:
 - Cash flow statement;
 - Profit and loss;
 - Balance sheet; and
 - Key financial indicators such as debt and interest ratios, NPV and IRR.

The most important outputs for a lender are the cash flow statement and Debt Service Cover Ratio (DSCR) over the term of the loan. The outputs are usually summarised on a year-by-year basis, but finer detail (e.g. month-by-month figures) may be required for certain projects (particularly where production, demand or prices exhibit seasonal variation).

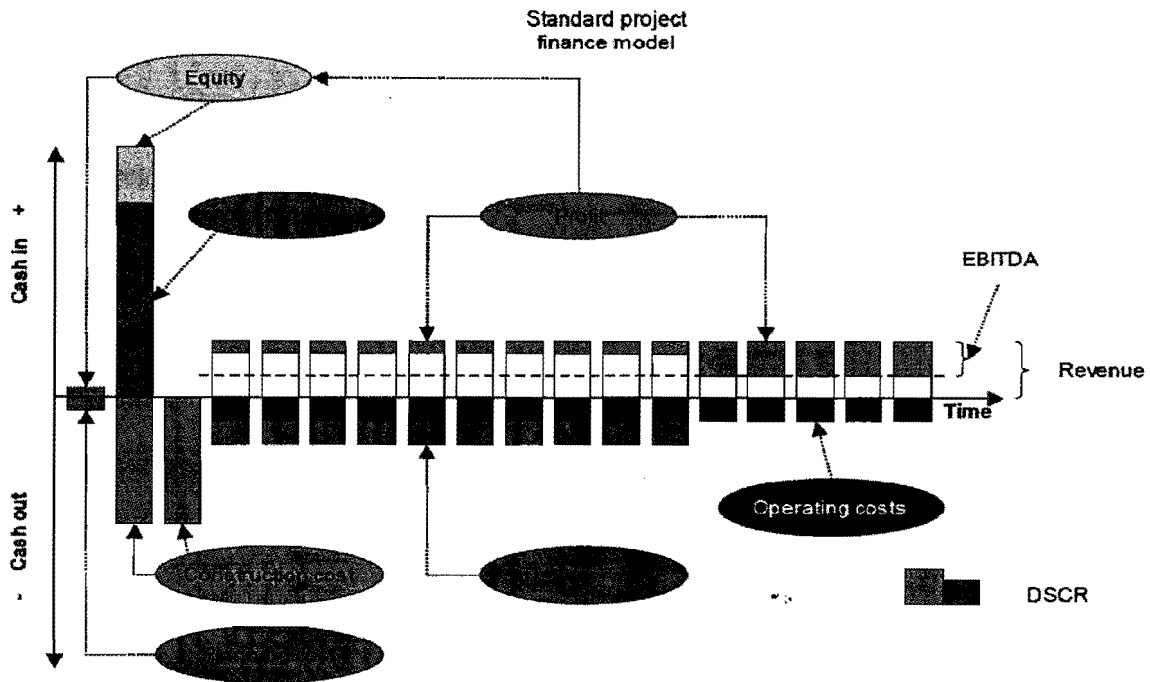
3.3. Key Financial Indicators

While detailed financial model outputs such as a month-by-month cash flow statement provide the necessary information required to assess a project's viability, a number of different indicators may be used to summarize the situation. The relative importance of different indicators differs between providers of debt and equity, although the underlying principles are the same.

The most important of these indicators are:

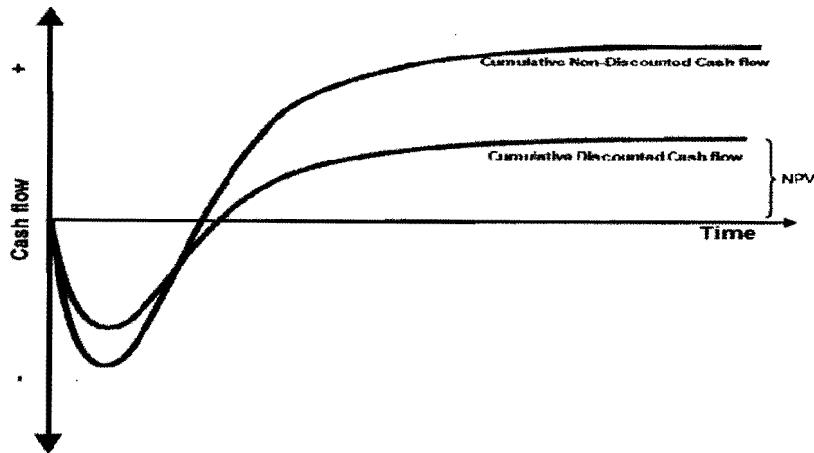
3.3.1. Project Net Present Value (NPV): The NPV of a project is defined as the sum of the future discounted cash flows of the project (before making any assumptions about how the project will be financed). Future cash flows are discounted by an appropriate discount rate reflecting the cost of capital, in order to convert to an equivalent Present Value; these Present Values are then summed to calculate the Net Present Value. Therefore calculating the NPV requires an assumption to be made about the appropriate discount rate (this may be the Weighted Average Cost of Capital for a firm, or a more project-specific discount rate). A positive NPV indicates that (at the assumed cost of capital) the project is a good investment (i.e. will yield a positive return).

Figure No.1: Typical project cash flows and key indicators



3.3.2. Internal Rate of Return (IRR): The Internal Rate of Return of a project is a related concept, defined as the discount rate for which a project’s NPV is equal to zero. Therefore the project IRR can be calculated and compared with either the Weighted Average Cost of Capital for a firm, or the IRR of similar projects. In any case, the project IRR should be higher than the prevailing long-term interest rate in the currency in which the project is being financed (otherwise it would be more worthwhile to put the finance on deposit at that interest rate, which would presumably have lower risk than investing it in the project).

Graph No.1 illustrates the difference between the project’s cumulative undiscounted and discounted cash flows. The Net Present Value is equivalent to the cumulative discounted cash flows at the end of the project time horizon.



- 3.3.3. Equity IRR:** The IRR can also be calculated specifically as the rate of return to the equity providers, after deducting loan interest and repayments (this requires assumptions to be made about the financing structure). Equity providers can only receive returns from post-tax profits (or sale of their shares), and the issue of dividends is typically limited by covenants with the lender, to ensure that debt repayment milestones are achieved first. This needs to be taken into account when calculating the equity IRR (since later returns have a lower Present Value).
- 3.3.4. Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA):** This is a measure of the cash generating potential of the project. EBITDA is essentially the revenue of the project minus its operating costs. In the first abovementioned figure, EBITDA is the amount above the dotted line.
- 3.3.5. Interest Cover Ratio:** This is calculated as EBITDA divided by interest payments and represents the ability of a project to meet its minimum financing costs (not including loan repayments). A minimum interest cover ratio is often applied by a lender, both when assessing a project, and as an ongoing requirement during the loan (after completion of construction and commencement of earning). A normal interest cover ratio requirement would be around 4 or 5 (higher for riskier projects).
- 3.3.6. Debt Service Cover Ratio (DSCR):** This is calculated as the ratio of EBITDA to all debt servicing requirements (i.e. interest plus loan repayments), shown as the ratio of the blue (EBITDA) to orange (debt service) squares in Figure 1 above. There is usually some flexibility in how the loan repayments are scheduled, such that the project will meet a minimum DSCR throughout the term of the loan (and in particular, during the first few

years), if it achieves a conservative performance forecast. Such flexibility may include interest and/or loan repayment holidays and stepped interest rates and/or loan repayments over the term of the loan. A lender's minimum DSCR requirement is always greater than 1. If the DSCR is less than 1 this means that the borrower cannot service the debt. A lender to a relatively risky project might require a DSCR greater than 2, and the cost of debt would be correspondingly higher.

3.4. Sensitivity Analysis

If a project appears to be financially viable, based on analysis of the relevant financial indicators using conservative or at least 'central case' assumptions, then a more detailed sensitivity analysis will be undertaken. The objective of the sensitivity analysis is to establish which of the input assumptions to the financial model has the greatest impact on the financial outcome. It is important to understand both which variable *can* have the greatest impact, and which is *most likely* to have the greatest impact, either singly or in combination with other variables.

Specialised software can help with running scenarios to examine the impact of specified changes in assumptions on selected financial indicators. However, while a purely mechanical manipulation of the input variables can identify which has the greatest potential impact (e.g. by comparing the impacts of a $\pm 10\%$ change in each variable), assessing the *likely* range of each assumption (and combinations of assumptions) requires a deeper understanding of the project and market for its outputs. This is one reason why banks prefer to lend only to projects they have experience with. However, for slightly more unusual projects, it may be possible for the bank to rely on independent experts to assist with the financial assessment.

The sensitivity analysis is related to the next stage, risk assessment and management, since many of the key sensitivities can be contractually hedged to reduce the risk to the lender. For example, key supply and purchase contracts may be fixed by volume and price.

3.5. Risk Assessment and Management

Lenders and investors will be particularly concerned to assess all of the risks associated with a project and to agree, with the project sponsors, on appropriate means to manage or mitigate those risks.

3.5.1 Types of Risk

Conventional project risks can be divided into three phases: planning, construction and operation risks. Typically a lender will only commence in-depth financial assessment of a project once the planning phase is completed and the project has the necessary permits and licences to operate. However, they may enter into discussions with a project developer and conduct a preliminary assessment at an earlier stage.

Figure No.2: Risks during Different Phases

Planning Phase	Construction Phase	Operation Phase
Feasibility risk	Time over-run risk	Technology risk
Permit/ Licence risk	Capital cost over-run risk	Market risk
		Supply risk
		Operating risk
		Political, legal and regulatory risks
		Financial risk
		Counterparty risk

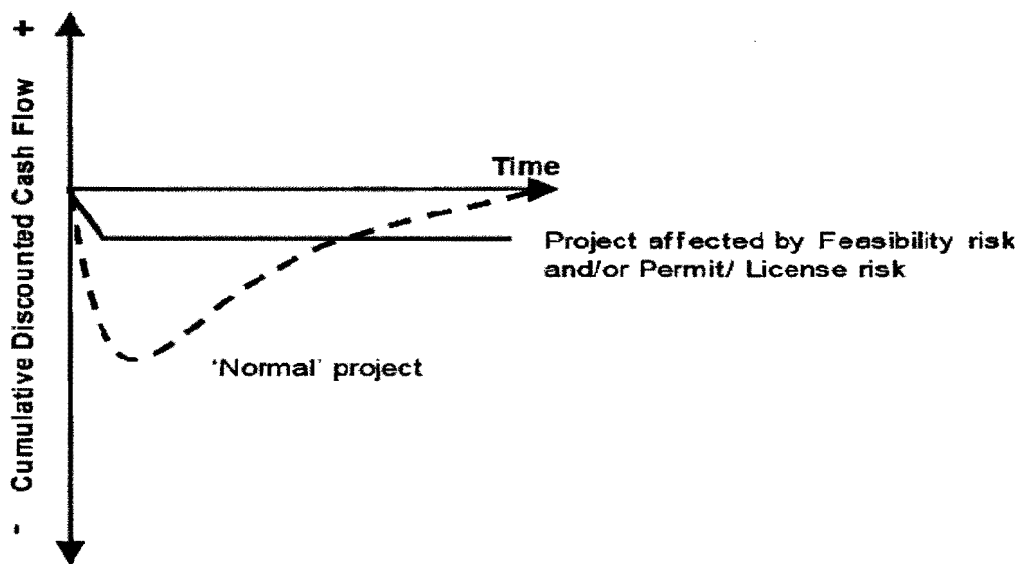
Source: The UNEP Project CD4CDM, Guidebook to Financing CDM Project, UNEP

3.5.1.1. Planning Phase Risks

- a. **Feasibility risk:** The risk that feasibility studies will find that a project is not feasible. Such a finding should not be viewed as a negative outcome, since it is better to discover a project is not feasible during the planning stage than at any later stage, when much more money has been spent. To some extent the risk may be mitigated by conducting feasibility studies in stages, for example with an initial screening phase to determine whether the project appears to be feasible according to the most important criteria for its success/failure.
- b. **Permit/licence risk:** The risk that permits or licences essential for the construction or operation of the project will not be granted by the relevant authorities. This risk is often specifically addressed in feasibility studies, for example by commissioning experts with experience of similar projects to provide an independent assessment of the risk. A proper understanding of the relevant regulator regime is essential and early engagement with the

relevant authorities is often desirable. The figure below shows the impact of planning risk (i.e. the possibility of finding that the project is not feasible, or cannot obtain a necessary permit or licence) on a project's cumulative discounted cash flow, or NPV. Instead of following the usual pattern of up-front capital expenditure followed by gradual recovery to a neutral cumulative cash position (i.e. where the NPV of the project is equal to zero, represented by the blue line), a project which does not proceed beyond the planning phase does not have a chance to recoup its planning costs and thus always has a negative NPV (the red line).

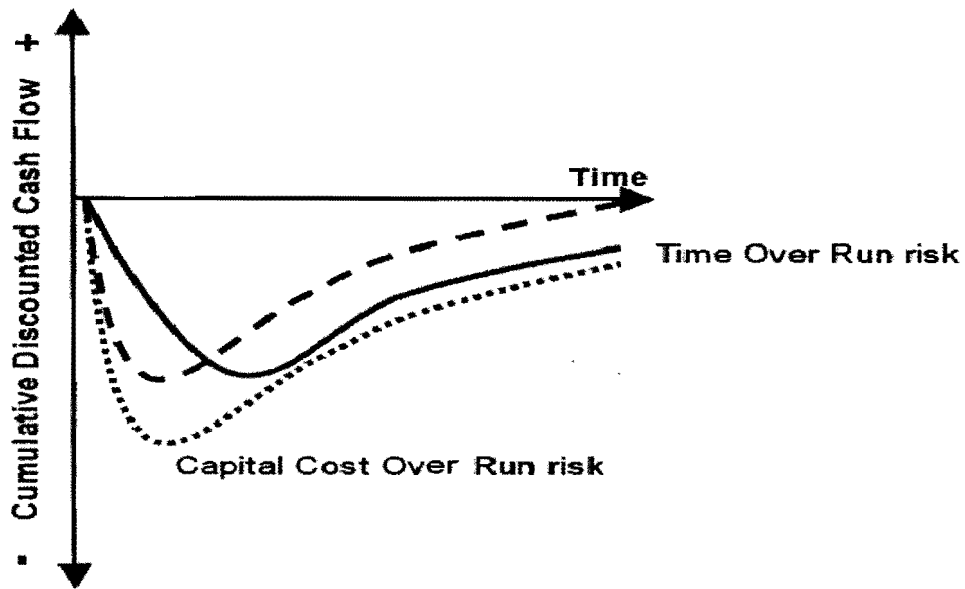
Graph No.2: Impact of planning risk on a project



3.5.1.2. Construction Phase Risks

- a. **Time over-run risk:** The risk that the project is not commissioned on schedule. Where there is a strong contractor responsible for the construction this risk can be managed through the contracts with the construction company and equipment providers, in the form of incentives (e.g. bonuses for timely completion) and/or penalties (e.g. performance bonds or completion guarantees allowing for monetary damages to be imposed for delays in delivery or completion).
- b. **Capital cost over-run risk:** The risk that the costs involved in implementing the project are higher than expected. This can be managed through entering into fixed-price contracts for the principal project components.

Graph No.3 Impact of construction phase risks on a project

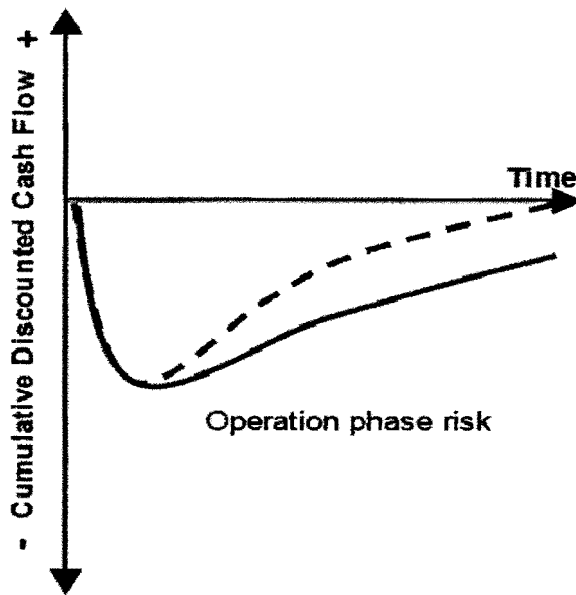


3.5.1.3. Operation Phase Risks

- i. **Technology risk:** The risk that the equipment installed does not perform to expected specifications. This can be managed through purchasing from a reputable supplier and requiring a performance guarantee, with monetary damages to be imposed for performance shortfall.
- ii. **Market risk:** The risk of price fluctuations for the outputs of the project. Prices may be lower than expected due to lower demand or increased supply from competitors or substitutes. This can be managed through entering into a long-term purchase agreement. At one end of the spectrum is a 'take or pay' fixed-price contract, where the buyer must either take the output or pay for it even if it is not taken. This transfers all market risk to the buyer. At the other end of the spectrum is the spot transaction which leaves the seller fully exposed to the market risk. There are many different options in between these two extremes, and it is up to the buyer and seller to negotiate the most mutually acceptable option.
- iii. **Supply risk:** The risk that supplies of key inputs to the project cannot be maintained, or increase in price. As with market risk, this can be managed through supply contracts fixing some or all of the volume and/or price of key inputs.

- iv. **Operating risk:** The risk that the project as a whole will not perform to expectations, and in particular the risk that the cost of operation and maintenance will be higher than expected. This can be managed through contracts with the operator requiring a certain level of performance and allowing monetary damages to be imposed for poor performance; and also by entering into long-term contracts with an operator to cap the operation and maintenance costs. Operating risk may also be mitigated by purchasing insurance to cover the risk of occurrence of specified events that would affect project performance or costs.
- v. **Political, legal and regulatory risks:** The risks associated with the country in which the project is situated not being sufficiently stable to ensure the continued operation of the project according to expectations, including the risk of war, revolution, insurgency, terrorism, civil unrest, expropriation, nationalisation, inability to enforce contracts, or changes in the legal or regulatory regime. This risk can be managed at the planning stage by screening the countries in which a project could potentially be situated according to published ratings of political risk, purchasing insurance against specific events, and obtaining guarantees from the host government, export credit agencies and/or international institutions.
- vi. **Financial risks:** The risk that interest rates, inflation, currency exchange rates or other financial variables may adversely affect the financial performance of the project. These risks can be managed through supply and purchase agreements (for example, ensuring that both are in the same currency), or through financial instruments such as interest rate or currency hedges.
- vii. **Counterparty risk:** The risk that a counterparty to a contract will fail to honour that contract. This can occur in relation to any contract at any stage of the project, but is typically most critical in relation to construction contracts and major supply and purchase contracts. This risk can be managed by ensuring that counterparties have a good credit rating.

Graph No.4: Impact of operation phase risks on a project



3.5.2. Assessing Risk

The sponsors of the project will typically undertake their own risk assessment early in the project planning process, as they will be exposed to the risks during the planning phase, whereas the lenders will undertake their risk assessment at a later stage, focussing on construction and operation phase risks. At either stage, risk assessment is generally undertaken through the steps described below.

3.5.2.1. Risk Identification

This step consists of identifying all of the risks associated with a project. Project sponsors may rely on their own knowledge of the project risks, or may commission studies from independent experts. Lenders usually commission expert risk analysts to undertake this (e.g. an insurance company involved in the project).

3.5.2.1 Risk Matrix

A matrix is drawn up to plot each risk against the phase of the project in which it occurs, it's likely impact and the parties affected by the risk, and how it is expected to be mitigated. This can form the basis of negotiations between parties as to the apportionment of the various risks.

3.5.2.3. Quantitative Risk Assessment

Once the risks have been identified and delineated in terms of which party must bear the risk, a quantitative risk assessment may be carried out on the project as a whole. The output may be a quantitative estimate of the total value at risk, or a comparative risk index (enabling the risk of a project to be compared with the risk of other similar projects).

Absolute risk is a measure of the risk posed by a specific event without countermeasures being taken. It is defined as the product of two factors: the likelihood of an event occurring, and the significance of the impact (if it does occur). Past records and professional judgments may be used to provide quantitative data for both factors. 'Significance' may either be an index (e.g. a scale from 1–10) or a monetary amount (damages). This assessment may then be modified to discount the absolute risk by a factor reflecting the availability of risk management options to reduce either the likelihood of an event occurring, or its impact.

3.5.3. Managing Risk

Infrastructure projects involve a certain quantity of risk which needs to be borne by the different stakeholders. Each project has its own unique set of risks and they could be broadly classified into construction risks, financing risks, demand risks, political risks and regulatory risks. The most important step is to allocate the different risks across the stakeholders on the basis of who is best suited to handle and mitigate the risk. If the private party is asked to bear a high degree of risk due to procedural delays, absence of legal framework, lack of clarity for tariff revisions, demand uncertainty, etc., the return expected by the private party would also be higher. Optimal allocation risks across stakeholders will reduce the overall cost of bearing the risk and thereby lower the project cost.⁴⁰

However, the management of project risks involves three steps.⁴¹ The first step requires the identification and analysis of all the risks that may bear upon the project. The second step is the

⁴⁰ Toolkit for Analysis of Urban Infrastructure Projects for Public-Private-Partnerships under JNNURM, Draft November 2008 available at <http://jnnurm.nic.in/nurmudweb/toolkit/10.ToolkitPP.pdf> (last accessed April 26, 2010)

⁴¹ Dr. CA Varadraj Bapat & Neha Parekh, 'Risk mitigation in project financing' available at <http://www.projectsmonitor.com/detailnews.asp?newsid=> (last accessed April 26, 2010).

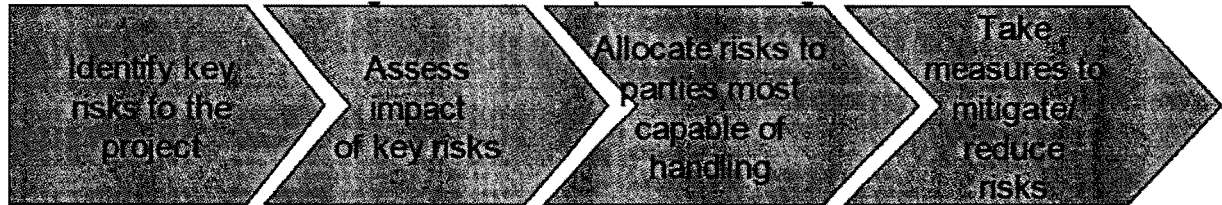
allocation of those risks among the parties. The last step is creation of mechanisms to manage the risks. Essentially the three options for managing risks are:

- I. **Change the project:** Once a risk has been identified and understood, particularly in the early planning stages, it may be possible to change the project to minimise the risk. For example, it may be possible to seek a purchaser to buy the output of the project in the same currency as the major supply contract for inputs to the project, to reduce exposure to currency risk.
- II. **Allocate the risk to the most appropriate party:** Generally speaking, the entities best able to manage a risk are those that best *understand* the risk and/or have some degree of *control* over it. In other words, it is usually the entity most closely associated with a risk which can bear that risk at lowest cost. For example, equipment suppliers have the best understanding of and control over the reliability of their equipment. They are, therefore, in the best position to manage technology risk by providing the project with an equipment performance guarantee. Nevertheless, it must be noted that, from an investor's or lender's point of view, allocating a risk to another party does not necessarily eliminate that risk, it simply transforms it into a counterparty risk. Guarantees will only provide effective risk management if the provider has a good credit rating and track record in the relevant activity.
- III. **Transfer the risk to a third party:** Financial instruments may be used to transfer risks to third parties, for example through hedging, third party guarantees or insurance. Hedging involves the use of derivatives markets, for example to fix future prices of commodities, currencies or interest rates. Third party guarantees may be provided by Export Credit Agencies or international institutions such as the World Bank's Multilateral Investment Guarantee Agency. Insurance involves the transfer of a risk to a third party who is able to bear that risk through diversification, that is, by combining a large number of unrelated (non-systematic) individual risks to reduce the impact on the overall portfolio.

3.5.4. Mitigation of Risk

Risk assessment can and should be updated during the course of a project, as the risk profile of a project will change over time. However, it is important to understand that, from a lender's

perspective, the risk associated with a project does not drop off substantially until after the project has been commissioned. At that point, a bank may use evidence of technical completion (signified by a positive acceptance report from a qualified inspector) as a trigger for step-down of interest rates, and/or financial completion (signified by receipt of significant revenues), as a trigger for eliminating the requirement for guarantees or project support agreements from a parent company. The Chart below describes the four steps involved in risk management leading to mitigation of risk.



Source: Toolkit for Analysis of Urban Infrastructure Projects for Public-Private-Partnerships under JNNURM Draft November 2008

- Step 1 - Risk identification: The project sponsors will usually prepare a feasibility study, e.g. as to the construction and operation of a mine or pipeline. The financiers will carefully review the study and may engage independent expert consultants to supplement it.
- Step 2 – Risk Analysis: The matters of particular focus will be whether the costs of the project have been properly assessed and whether the cash-flow streams from the project are properly calculated. Some risks are analyzed using financial models to determine the project's cash flow and hence the ability of the project to meet repayment schedules. Different scenarios will be examined by adjusting economic variables such as inflation, interest rates, exchange rates and prices for the inputs and output of the project. Various classes of risk that may be identified in a project financing will be discussed below.
- Step 3 - Risk allocation: Once the risks are identified and analysed, the parties through negotiation of the contractual framework allocate them. Ideally a risk should be allocated to the party who is the most appropriate to bear it (i.e. who is in the best position to manage, control and insure against it) and who has the financial capacity to bear it. It has been observed that financiers attempt to allocate uncontrollable risks widely and to ensure that each party has an interest in fixing such risks. Generally, commercial risks are sought to be allocated to the private sector and political risks to the state sector.

- Step 4 - Risk management: Risks must be also managed in order to minimise the possibility of the risk event occurring and to minimise its consequences if it does occur. Financiers need to ensure that the greater the risks that they bear, the more informed they are and the greater their control over the project. Since they take security over the entire project and must be prepared to step in and take it over if the borrower defaults. This requires the financiers to be involved in and monitor the project closely. Imposing reporting obligations on the borrower and controls over project accounts facilitates such risk management. Such measures may lead to tension between the flexibility desired by borrower and risk management mechanisms required by the financier.

3.6. Conclusion

Project financing discipline includes understanding the rationale for project financing, preparation of the financial plan, assessment of the risks, designing the financing mix, and raising the funds. Proper identification, analysis and allocation of risks at the construction and the operation phases are very important. Effective management of risks proves to a key for successful project financing.

CHAPTER 4

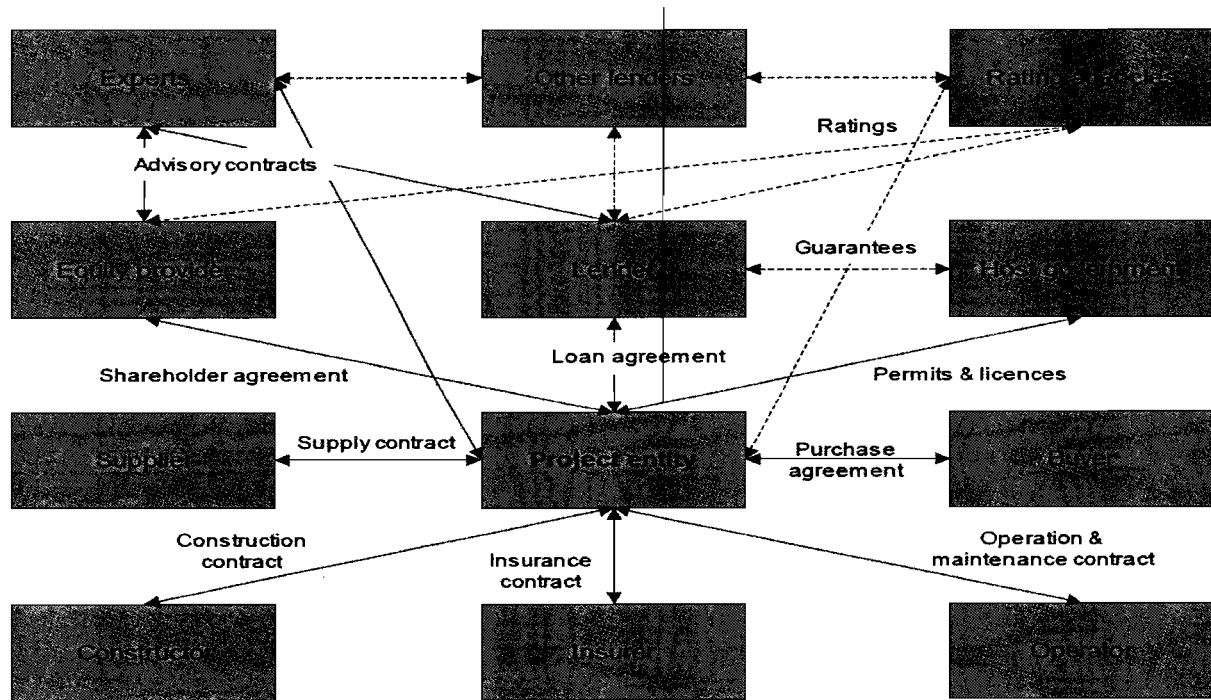
BANKABILITY, COMMERCIAL BANKS & EXPOSURE RISKS TO FINANCING INFRASTRUCTURE PROJECTS

4.1. Introduction

“Bankability” is the acceptability or otherwise of a project’s structure is the basis of the project funding. Bankability is an art, not a science. It is a very fluid concept, changing rapidly as market practice and market change. It can also be very deal specific concept: what is an acceptable balance of one of the risks of one of the projects may not be acceptable for another project with slightly different strengths and weaknesses. An understanding of the Banks’ attitude to risk can provide a very useful insight into some of the aspect of the ethereal concept of bankability. Banks hate surprises and crave predictability. As a general rule, banks will not accept risks which are either incapable of proper assessment or analysis or which are potentially open ended in their effect.

4.2. Requirement for Bankability

Figure No.1: Contractual Framework of Project



The optimum position for the banks in relation to the consents and authorizations for various contracts as shown in Figure No.1. required for the project are as follows:

- (i) All consents should be issued for the duration of the project.
- (ii) The terms of the consents would be subject to as little variation by regulators as possible.
- (iii) The consents should not terminate if the banks enforce their security.
- (iv) The permits should be fully transferable.

4.2.1 Shareholders Agreement and the sponsors' contributions: The optimum position for the banks is:

- (i) The sponsors should provide all their equity contributions up-front.
- (ii) The Sponsors should provide cover for cost overruns.
- (iii) The sponsors should provide cover for any gaps in insurance coverage.

4.2.2. Concession Agreement: The optimum position here is as follows

- (i) The terms of the concession should be fixed for the life of the project
- (ii) There should not be any unduly onerous terms imposed on the project company ex. A high level of liquidated damages if completion is not achieved by a fixed date if the project company is unable to pass-through all of the liquidated damages to its own contractor.
- (iii) The grantor of the concession should accept the change in law risk.
- (iv) The concession period should be extended by period of *force majeure*.
- (v) The concession should not terminate simply because the banks enforce their security.
- (vi) The arrangements for termination of the concession should not be expropriatory and any compensation to which the project company is entitled should always be sufficient to repay the banks.
- (vii) On enforcement, the banks should be able to freely transfer the concession to a third party.

4.2.3. Construction Contract: The Bank's list for the construction contract is fairly predictable:

- (i) The construction must be a turnkey contract as there should be no aspect of the construction and design that should be left between the 'cracks'. For ex. If the contractor is basing his design on any plans or data given by the project company, the contractor

should have the opportunity to verify its accuracy, but must take the responsibility though the design has been given by the company.

- (ii) There should be a fixed price, incapable of being re-opened and the price should be paid in one lump sum on final completion.
- (iii) Completion must occur within a fixed time.
- (iv) The *force majeure* events should be limited.
- (v) Where there is a concession agreement, the contractor should only be able to claim *force majeure*, an increase in price or an extent to which the project company is able to claim *force majeure*.
- (vi) Liquidated damages should be payable if completion is not achieved by a fixed date and those liquidated damages should be adequate and at least cover interest payable on the loan for a reasonable period.⁴²
- (vii) There should be no limits on the contractor's liability.
- (viii) The contractor should give extensive guarantees and, if the contractor is to be released from liability for defects after a period, that period should be long and only run from the passing of a well defined completion test.

4.2.4. Operation and Maintenance Agreement: The optimum position for the bank corresponds with that of the project company and is as follows:

- (i) The operator should be given proper incentives to run the project properly and efficiently in order to maximize the project company's profits.
- (ii) Conversely, the operator should be subject to tough penalties if certain operating targets are not met.
- (iii) The banks should be able to remove or bring about the removal of the operator for poor performance.

4.2.5. Supply Agreement: The main issues for banks in supply contract are those that also pre-occupy the project company, namely:

- (i) Security of supply and the remedies for unwarranted interruptions of supply.
- (ii) The fierceness of any take-on-pay obligation imposed on the project company.

⁴² Banks essentially see liquidated damages as revenue stream which substitutes for the project's real revenue stream in the event of delay.

4.2.6. Off-take Agreement: The banks' reaction to the terms of an offtake agreement depends to a large extent on the identity of the offtaker and whether the offtake agreement is an arm's length market price arrangement or pass-through arrangement. In the former case, the banks will be concerned to see that the project company is offered true market terms and that the offtaker's credit standing is acceptable. While, the credit worthiness of an offtaker will also be an issue in the latter's case, the banks' analysis is more complex. The optimum bankable position is:

- (i) A full pass-through of capital and energy costs.
- (ii) Any pass-through should be effected in matching currencies so that the project company does not bear any residuary foreign exchange risk.
- (iii) There should be an extensive assumption of the *force majeure* risk by the offtaker. The offtaker should effectively 'stand-still' notwithstanding the fact that the project company cannot produce the required product.

4.3. Do's and Don'ts of Bankability of Projects

The following is a tentative list of do's and don'ts for banks to observe bankability of projects:⁴³

- a) Banks should not take the risk of a change in law. This is subject to what is said about taxes in B below.
- b) The project should not be exposed to the possibility of discriminatory taxes. Banks may take the risk of general taxes but will not take the risk that their particular project is singled out for discriminatory tax.
- c) Sponsors should not seek to extract distributions or quasi-distribution prior to date of first payment of the loans or if there is a default under the project credit arrangement.
- d) Pre-completion revenues should be applied against the project's capital expenditure.
- e) There must be good faith to share risks. The project company must not be viewed as simply a dumping ground for all the residual risks that neither the host government nor the sponsors wish to take.
- f) Sponsors should not push the capitalization of their vehicle companies to unacceptable limits.

⁴³ Vinter D. Graham, 'Project Finance: A Legal Guide', 2nd Ed. 1998, London: Sweet & Maxwell.

- g) The project company is either not to be liable for consequential loss (most importantly, loss of profits⁴⁴ flowing from a breach by it for its obligations under a project contract, or if it to be made liable, the exposure must be capped.
- h) The project company should generally not be responsible for the detailed design of the project.
- i) The other parties to the project should not be allowed to terminate those contracts simply because the banks are enforcing their security cover over the company's shares or assets.

4.4. Financing Risks in Project Finance

Viability and sustainability of economic growth depends on the availability of adequate and suitable infrastructure. Without proper roads, electricity, water, modern communication and travel facilities producers of goods and services would be constrained to operate at below optimum levels of production and will miss delivery schedules and global business opportunities. Infrastructure projects have a very high positive effect on the economy. As a result, large infrastructural projects have been traditionally financed and carried out by the State. Large financial institutions and Multi-lateral agencies, like the World Bank, Asian Development Bank, etc have provided a strong line of credit to the States directly or through special purpose vehicles (SPV) with an entity of the State.

With Governments coming under severe budgetary constraints, the scope for governmental finance of large projects is getting severely restricted. Further, the governmental spending on infrastructural projects in the Indian context is likely to meet the hurdle of the FRBM laws which sets limits to deficit financing.⁴⁵ The Committee on Infrastructure Financing constituted by the

⁴⁴ The phrase 'consequential loss' does not necessarily include loss of profits under English law despite the view of some commentators. See ex. In the unreported case of *British Sugar Plc v. NEI Power Projects Ltd*, *Alliott J*, December 20, 1996. Liability for loss of profits should always be specifically excluded. It should also be made clear in a power purchase agreement that the project company will not be liable for the cost to the power purchaser of obtaining replacement capacity.

⁴⁵ The Fiscal Responsibility and Budget Management (FRBM) Act 2003 as a curb on large deficits. The Act came into effect on July 5, 2004 following the issue by the Finance Ministry of the notification and the FRBM Rules 2004 made under the Act. The FRBM Act has four main requirements. First, it requires the Government to place before Parliament three statements each year along with the Budget, covering Medium Term Fiscal Policy, Fiscal Policy Strategy and Macroeconomic Framework. The content is prescribed in the Act and the format in the Rules. Second, the Act lays down fiscal management principles, making it incumbent on the Centre to "reduce the fiscal deficit" (no target is mentioned in the Act, but the Rules prescribe 3 per cent of GDP) and, more categorically, to "eliminate revenue deficit" by March 31, 2008. It requires the Government to set a ceiling on guarantees (the Rules prescribe

Government of India under Deepak Parekh has estimated that India would need an Investment to the tune of USD 320 Billion on infrastructure projects during the next Five Year Plan. The Prime Minister in his speech has said that the Eleventh Plan had estimated that we would need to invest over Rs. 20 lakh crore in infrastructure over the five year period. This was more than double the realized investment during the Tenth Plan period. The Plan also recognized that such a large investment in infrastructure could not be funded from public resources alone. This is because the government would have to devote a large portion of its own resources to critical livelihood support programmes and to providing access to health and education services which are crucial to ensuring inclusiveness.⁴⁶ The Deepak Parekh Committee has, therefore, underscored the need for greater private financing of infrastructure projects. One of the key challenges in meeting this target of financing through private parties arises from the fact that there is severe shortage of private risk capital to support debt financing.

Given the large financing requirement of infrastructure projects, participation of commercial banks in funding of such project becomes quintessential and not only helps in funding the projects but also attracts retail investors towards subscribing the equity or debt capital of the project.

The Reserve Bank of India has issued a set of guidelines that banks have to follow with regard to their infrastructure project financing activities.⁴⁷ Notwithstanding these guidelines, banks have to reckon with Basel II Norms while evaluating their risk capital requirement in respect of their exposures to infrastructure projects. The risk assessment of an infrastructure project is

0.5 per cent of GDP). The Act provides that the ceilings may be exceeded on grounds of "national security or national calamity or such other exceptional grounds as the Central Government may specify". Third, in its most stringent provision, the Act prohibits the Centre from borrowing from the Reserve Bank of India — that is, it bans 'deficit financing' through money creation. The RBI is also barred from subscribing to primary issues of Central Government securities. Temporary Ways and Means advances to tide over cash flow problems are permitted. This provision will not apply till April 2006. Exceptions are also allowed whenever the Government declares an exceptional situation, as mentioned earlier. Fourth, the Finance Minister is required to keep Parliament informed through quarterly reviews on the implementation, and to take corrective measures if the reviews show deviations. The Act provides that no deviation shall be permissible "without the approval of Parliament".

⁴⁶ Address by Dr. Manmohan Singh, Prime Minister of India at Secretariat for Infrastructure, Planning Commission dated March 23, 2010. Available at http://www.infrastructure.gov.in/presentation_march23_2010/pres/PM-SPEECH.pdf (last accessed April 13, 2010)

⁴⁷ Master Circular – Exposure Norms, RBI/2009-10/71 DBOD No. Dir. BC.15/13.03.00/ 2009-10 dated July 01, 2009. Guideline 2 providing for ceilings under 2.1.1.1 provides that the exposure ceiling limits would be 15 percent of capital funds in case of a single borrower and 40 percent of capital funds in the case of a borrower group.

qualitatively different from the risk assessment methodology that banks normally employ with regard to their normal exposure to corporate borrowers. A major challenge for banks is to devise appropriate methodology for application of Internal Ratings Based (IRB) approach⁴⁸ for their project related exposure. According to the reference definition, a default occurs when:⁴⁹

- a. The bank considers that an obligor is unlikely to repay in full its credit obligations to the banking group, without recourse by the bank to actions such as realising security; or
- b. The obligor is past due for more than 90 days on any material credit obligation to the banking group.

To begin, we need to clearly identify and isolate the important risks of a large scale infrastructure project and build a proper and validated internal rating model for working out the risk weightage of such exposure. In this chapter, a very brief description of these risks are submitted, followed by an outline of the prescribed Basel II approach for risk assessment of such project finance exposures.

4.5. Risks in Project Completion Phase

An infrastructure project has a very long gestation period during which many risk events may occur, leading to time and cost overrun and thereby impacting the projects initial estimate of cash flow patterns and its overall viability. The main risks during this phase are:⁵⁰

1. Completion risk: Completion risk refers to the uncertainty to timely completion of the project within the budgeted costs. The completion risk may arise due to a number of factors like non-availability of crucial inputs including supporting infrastructure like

⁴⁸ The Basel Committee on Banking Supervision's ("BCBS"), International Convergence of Capital Measurement and Capital Standards: A Revised Framework ("Basel II"), specifies a reference definition of default ("reference definition") to be used for recording defaults and estimating probability of default, loss given default and exposure at default when using the internal ratings-based ("IRB") approach. Basel Committee on Banking Supervision ("BCBS"), International Convergence of Capital Measurement and Capital Standards: A Revised Framework, June 2004, paragraph 456.

⁴⁹ Monetary Authority of Singapore, Consultation Paper: IRB Approach Definition of Default, July 2004. Available at http://www.mas.gov.sg/resource/publications/consult_papers/2004/Consultation_paper_IRB_Approach.pdf (last accessed April 13, 2010)

⁵⁰ Dr. Ashok Kumar Nag, 'Risk in Project Financing'. Available at www.riskraft.com/8.pdf (last accessed April 13, 2010)

land. For a Metro project, for example, it would be dependent on acquisition of property which is subject delay due to litigation or non-clearance by the permitting authorities.

2. **Cost Overrun Risk:** A project's viability depends on the realization of projected costs of critical inputs. These assumptions may go wrong for a long gestation project. For example, the price of steel and cement may raise the cost of construction massively. The construction company may not be willing to bear the increased cost and may refuse to complete the construction, unless, the project sponsor agrees to bear the cost to a mutually beneficent extent.
3. **Funding Risk:** In a public-private participation project, the ability of the State to provide for necessary funding as per originally agreed extent may be jeopardized due to unexpected unavailability of funds in the State's budget. A privately sponsored project may also face uncertainty if the project sponsor is unable to raise the necessary funds in time.

4.6. Risks in Project Operating Phase

The profile of an infrastructure project is always fraught with risk as it undergoes significant changes when a project is completed and cash flows start. The main risks during this phase of a project cycle are:

1. **Performance Risk:** If a project does not meet the original planned performance level, the actual cash flows may not be up to the mark and hence, inadequate to service the debt and/or meet the expected return for equity capital deployed.
2. **Market or Off-take Risk:** The main market risk for an infrastructure project relates to lower than projected demand or off-take of the project's product or services. A toll road or flyover may fail to attract the required number of users to make the project viable. When the entire demand comes from a monopoly purchaser, as in an electricity project, the State electricity board is the purchaser a minimum off-take agreement mitigates risk. The other types of market risks are fairly common for any investment project, which are interest rate risk, exchange rate risk and price risk. Since, infrastructure projects have high capital requirement, high leverage and long gestation duration, interest cost forms a

significant component of the overall cost of the project and proper mitigation and calculation of this risk is of utmost importance for a project's-long term viability. The Exchange rate becomes even more important for projects which have substantial foreign currency exposure.

3. **Payment Risk:** This risk arises when the purchaser of the services/products of a project is a monopoly and more often than not, a State monopoly. Because an infrastructure project is often considered as an essential utility, non-payment of dues cannot be considered as a reason for discontinuation of supply of the either the product or the service.

4.7. Mitigation of Risk

A major risk which may shape up at any phase of the project is the Regulatory and Political Risk. Levying of user charges for an infrastructure project is a sensitive political issue and political commitment to any agreed course of action may change significantly over the long period of the project. Financing of a project involves a intricate set of transactions interwoven together with a number of contracts between all stake holders, including government, project sponsors, financiers, input suppliers, construction contractors, etc. The properly drawn up and legally enforceable contracts are the most essential means of the risk mitigation for financiers as it is the only way to mitigate the large project specific risks that cannot be diversified by the financiers. The three types of Contracts which the lenders draw to mitigate risk are:

- (a) Concession Agreements between the host Government and the project company;
- (b) Performance Contracts between the project company and the contractors and operators;
- (c) Loan Contracts between the Creditors and the project company.

4.8. Basel II and Project Finance

The Basel II Norms considers project finance as a special type of corporate loan under the IRB approach. Under the standardized approach, project finance is not separately dealt with and it is, therefore, presumed that it would attract the same treatment as other corporate loans.⁵¹

⁵¹ Para 220 of the Basel II Norms under Corporate Exposures available at <http://www.federalreserve.gov/boarddocs/press/bcreg/2004/20040626/attachment.pdf> (last accessed April 30, 2010). Para 220 reads as "The five sub-classes of specialised lending are *project finance*, *object finance*, *commodities finance*, *income-producing real estate*, and *high-volatility commercial real estate*."

Under the norms, if a project is not externally rated it would attract 100% risk weight.⁵² Since, the main collateral for project finance exposure is the asset created in the project, there would be no risk mitigation for such exposure. A Bank which adopts the IRB approach for its corporate asset exposure need not estimate probability or default for its project finance exposures. It may instead adopt an internal rating system to grade the exposure to five supervisory categories. A bank must have specific rating definitions, processes and criteria for assigning exposures to grades within a rating system. The rating definitions and criteria must be both plausible and intuitive and must result in a meaningful differentiation of risk. A qualifying IRB rating system must have two separate and distinct dimensions: (i) the risk of borrower default, and (ii) transaction-specific factors.

The first dimension must be oriented to the risk of borrower default. Separate exposures to the same borrower must be assigned to the same borrower grade, irrespective of any differences in the nature of each specific transaction. There are two exceptions to this. Firstly, in the case of country transfer risk, where a bank may assign different borrower grades depending on whether the facility is denominated in local or foreign currency. Secondly, when the treatment of associated guarantees to a facility may be reflected in an adjusted borrower grade. In either case, separate exposures may result in multiple grades for the same borrower.⁵³ A bank must articulate in its credit policy the relationship between borrower grades in terms of the level of risk each grade implies.

Further, an IRB bank must have in place sound stress testing processes for use in the assessment of capital adequacy. Stress testing must involve identifying possible events or future changes in economic conditions that could have unfavourable effects on a bank's credit exposures and assessment of the bank's ability to withstand such changes. Examples of scenarios that could be used are (i) economic or industry downturns; (ii) market-risk events; and (iii) liquidity conditions.

⁵² Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standard (Basel II Norms): Rating System Design of the Basel II Norms. (June 2004) ISBN web: 92-9197-669-5. Available at <http://www.federalreserve.gov/boarddocs/press/bcreg/2004/20040626/attachment.pdf> (last accessed April 30, 2010)

⁵³ Annex 4 - Supervisory Slotting Criteria for Specialized Lending, Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standard (Basel II Norms).

In addition to the more general tests described above, the bank must perform a credit risk stress test to assess the effect of certain specific conditions on its IRB regulatory capital requirements. The test to be employed would be one chosen by the bank, subject to supervisory review. The test to be employed must be meaningful and reasonably conservative. Whatever method is used, the bank must include a consideration of the following sources of information. First, a bank's own data should allow estimation of the ratings migration of at least some of its exposures. Second, banks should consider information about the impact of smaller deterioration in the credit environment on a bank's ratings, giving some information on the likely effect of bigger, stress circumstances. Third, banks should evaluate evidence of ratings migration in external ratings.

Finally, securitization of credit exposure may be a desirable alternative to Banks involved in project financing. Securitization would also help banks to reduce the asset-liability mismatch that a usual infrastructure project. Banks must apply the securitization framework for determining regulatory capital requirements on exposures arising from traditional⁵⁴ and synthetic securitizations⁵⁵ or similar structures that contain features common to both. Since securitizations may be structured in many different ways, the capital treatment of a securitization exposure must be determined on the basis of its economic substance rather than its legal form. Similarly, supervisors should look to the economic substance of a transaction to determine whether it should be subject to the securitization framework for purposes of determining regulatory capital. Banks are hence, encouraged to consult with their national supervisors when there is uncertainty about whether a given transaction should be considered a securitization.

⁵⁴ A *traditional securitization* is a structure where the cash flow from an underlying pool of exposures is used to service at least two different stratified risk positions or tranches reflecting different degrees of credit risk. Payments to the investors depend upon the performance of the specified underlying exposures, as opposed to being derived from an obligation of the entity originating those exposures. The stratified/tranched structures that characterise securitizations differ from ordinary senior/subordinated debt instruments in that junior securitization tranches can absorb losses without interrupting contractual payments to more senior tranches, whereas subordination in a senior/subordinated debt structure is a matter of priority of rights to the proceeds of liquidation.

⁵⁵ A *synthetic securitization* is a structure with at least two different stratified risk positions or tranches that reflect different degrees of credit risk where credit risk of an underlying pool of exposures is transferred, in whole or in part, through the use of funded (e.g. credit-linked notes) or unfunded (e.g. credit default swaps) credit derivatives or guarantees that serve to hedge the credit risk of the portfolio. Accordingly, the investors' potential risk is dependent upon the performance of the underlying pool.

PART B
REGULATORY AND LEGAL HINDRANCES IN INFRASTRUCTURE
PROJECT FINANCE

CHAPTER – 5

REGULATION OF PROJECT FINANCE

A key feature of a regulatory regime is the establishment of official regulators with wide powers. These regulators source their power from subordinate regulations of legislative statutes thereby giving them power to make rules, implement executive policy and to make decisions and enforce the same using fines and sanctions.⁵⁶ Often this is backed by the encouragement of private enforcement by investors of civil claims. Thus the regulation involves the concentration of legislative, executive and judicial powers in one entity. Regulations are a form of state intervention.

Regulators are established by State with the following objectives in mind:

- To decentralize government and to enhance independence so as to reduce day to day cost and governmental interference.
- To promote closeness to the regulated field and hence, focus expertise and experience.
- To distance the agencies from central government, especially the risk of liability and opprobrium.
- To throw costs to the regulated firms who pay fees, thereby avoiding direct taxation.

5.1. The Economic Rationale for Regulation

The economic rationale for regulation is based on the seven components in banking and financial services:⁵⁷

- I. Potential systemic problems associated with *externalities* (a particular form of market failure).
- II. The correction of other *market imperfections and failures*.
- III. The need for *monitoring* of financial firms and the economies of scale that exist in this activity.
- IV. The need for consumer *confidence* which also has a positive externality.

⁵⁶ Phillip R. Woods, 'Project Finance, Securitisations, Subordinated Debt', London: Sweet & Maxwell, 2007, p.3.

⁵⁷ David Llewellyn, 'Economic Rationale for Financial Regulation', Occasional Series Paper 1, Financial Services Authority, April 1999.

- V. The potential for *Grid Lock*, with associated adverse selection and moral hazard problems.
- VI. *Moral hazard* associated with the revealed preference of governments to create safety net arrangements: lender of last resort, deposit insurance, and compensation schemes.
- VII. *Consumer demand* for regulation in order to gain a degree of assurance and lower transactions costs.

5.2. Law and Institutions Regulating Project Finance in India

As may be seen from Figure 1 in a report by the World Bank, the current system involves half a dozen apex regulatory agencies, apart from several ministries in the government that retain direct regulatory powers.⁵⁸ This structure leads to major regulatory overlaps and regulatory gaps. Some examples of regulatory overlap include: Overlap between SEBI and MCA in the regulation of issuer companies. Overlap between SEBI and RBI in the regulation of foreign institutional investors as well as in exchange traded currency and interest rate products. Overlap between RBI and state governments in the regulation of cooperative banks.

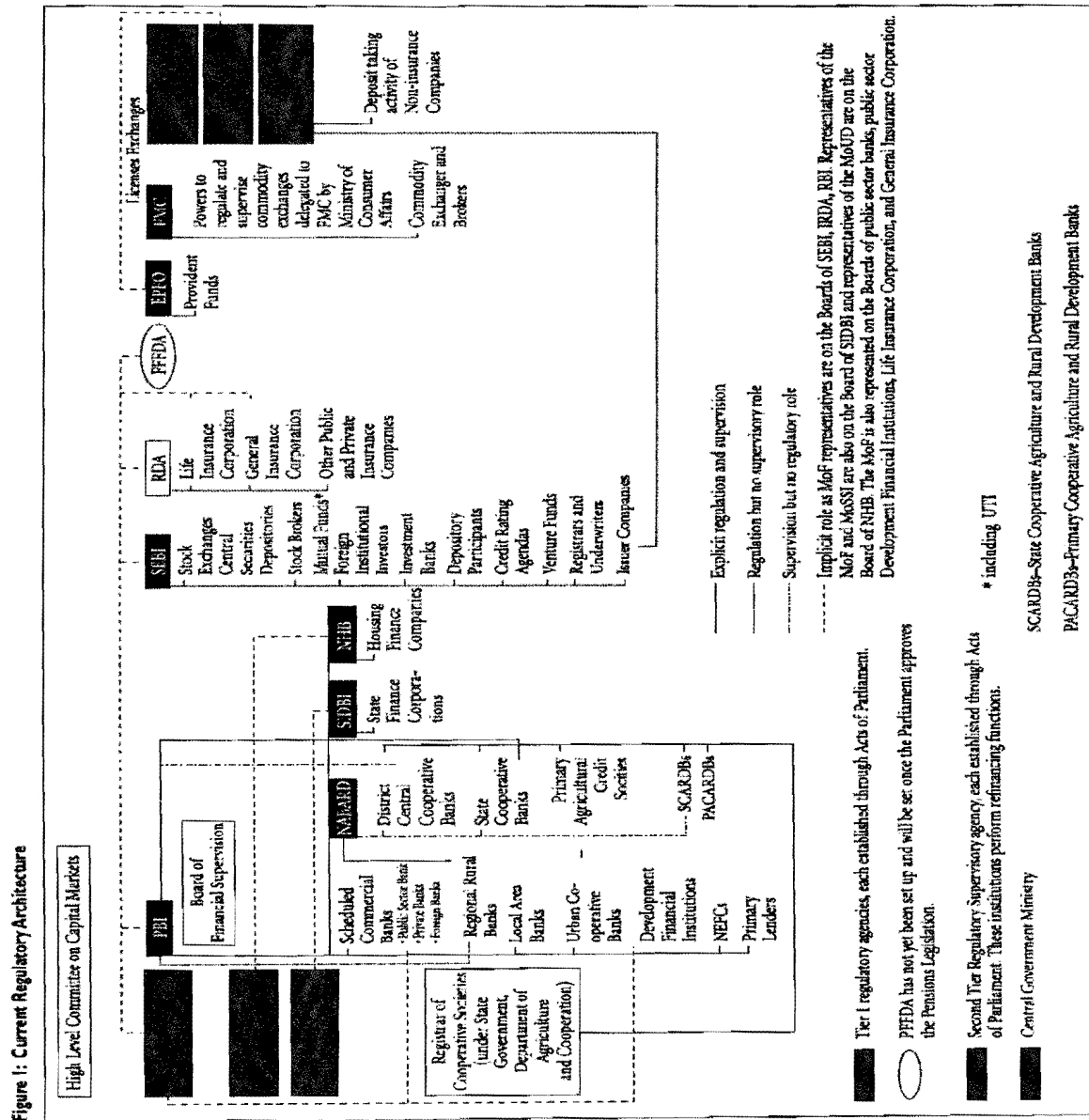
Some examples of regulatory gaps include:

- Absence of any mechanism for regulatory review of corporate accounting statements for compliance with disclosure requirements.
- The growing number of credit cooperative societies and MFIs involved in deposit taking or gathering, with little oversight.
- Absence of supervision of cross-market activities.
- Inadequate regulation of financial planners and advisors.

Sometimes the structure can also lead to regulatory arbitrage as similar financial services may be offered by institutions that come under different regulators and are therefore subject to different regulatory requirements. For example, investment linked insurance products include fund management services similar to that offered by mutual funds, but under completely different regulatory requirements regarding capital, expenses and disclosure. Competition is not bad if it eventually results in the right institution undertaking the activity. It becomes a problem when one

⁵⁸ 'A Hundred Small Steps' - Report of the Committee on Financial Sector Reforms, Government of India under the Chairmanship of Shri. Raghuram Rajan, Planning Commission, 2009 New Delhi: SAGE Publications India Pvt. Ltd

institution has an advantage only because the other is excessively constrained by its regulator. With excess regulation in India, this is a real danger. The overlapping regulatory structure also becomes a barrier to innovation as any new product might need approval from more than one regulator. In some cases, it is not even clear which regulator has primary jurisdiction over the product. While competition between regulators creates space for innovation, competition with uncertain jurisdiction does not.



Financial Regulation in India is taken care of by three Regulators namely, the Reserve Bank of India (RBI) which regulates the Money Market, the Securities Exchange Board of India (SEBI) which regulates the Securities Market in India and the Insurance Regulatory and Development Authority (IRDA) which regulates the insurance sector.

5.2.1. Reserve Bank of India (RBI)

The RBI also called the Central Bank regulates the banking, non-banking institutions and the money market in India.⁵⁹ The Reserve Bank is entrusted with the supervision of the banking system in India under the provisions of the Banking Regulation Act, 1949 and the Reserve Bank of India Act, 1934. The Reserve Bank regulates select financial institutions (FIs) and non-banking financial companies (NBFCs) under Chapter IIIB of the Reserve Bank of India Act. Consequent upon amendments to Chapters IIIB, IIIC and V, through the Reserve Bank of India (Amendment) Act in 1997, the Reserve Bank introduced a comprehensive regulatory framework in respect of NBFCs, including compulsory registration in terms of the amended Section 45-IA.

The role of the RBI as a regulator may be summed up as below:⁶⁰

1. As the **Monetary Authority** formulates, implements and monitors the monetary policy. Its objective is also maintaining price stability and ensuring adequate flow of credit to productive sectors.
- As the **Regulator and supervisor of the financial system** it prescribes broad parameters of banking operations within which the country's banking and financial system function. It also maintains public confidence in the system, protect depositors' interest and provide cost-effective banking services to the public.
- As the **Manager of Foreign Exchange** it manages the Foreign Exchange Management Act, 1999 to facilitate external trade and payment and promote orderly development and maintenance of foreign exchange market in India.

⁵⁹ 'The Evolution of Banking Regulation in India – A Retrospect on Some Aspects,' The Special Address delivered by Shri V Leeladhar, Deputy Governor, Reserve Bank of India at the Bankers' Conference (BANCON) 2007 on November 26, 2007 available at <http://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/81434.pdf> (last accessed May 10, 2010)

⁶⁰ Website of the Reserve Bank of India, available at <http://www.rbi.org.in/scripts/AboutusDisplay.aspx#LF> (last visited May 10, 2010)

- As the **Issuer of currency** it issues and exchanges or destroys currency and coins not fit for circulation. It gives the public adequate quantity of supplies of currency notes and coins and in good quality.
- In the **Developmental role** it performs a wide range of promotional functions to support national objectives.
- The other **related functions** include Banker to the Government: performs merchant banking function for the central and the state governments; also acts as their banker. And as Banker to banks maintains banking accounts of all scheduled banks.

5.2.2. Securities Exchange Board of India (SEBI)

SEBI was constituted in 1992 for the purpose of “.....to protect the interests of investors in securities and to promote the development of, and to regulate the securities market and for matters connected therewith or incidental thereto”.⁶¹ SEBI is the market regulator for the securities market in India. SEBI is also responsible for the stock exchanges, collective investment schemes and acquisition of companies by virtue of the Takeover Code. SEBI has been created primarily, for the purpose of protecting the interests of investors in securities. SEBI has been constituted under Securities Exchange Board of India Act of 1992. It regulates the securities market by enforcing the condition laid down in the Securities Contract Regulation Act of 1956 and other allied laws. SEBI by virtue of Section 55A of the Companies At, 1956 is required to administer the provisions of sections specified in section 55A in respect of issue of capital, transfer of securities and non-payment of dividend in case of listed companies and the companies which intend to get their securities listed on the stock exchanges.

Accordingly, SEBI's functions may be summarized as e:

- Regulating the business in stock exchanges and any other securities markets
- Registering and regulating the working of collective investment schemes, including mutual funds.
- Prohibiting fraudulent and unfair trade practices relating to securities markets.
- Promoting investor's education and training of intermediaries of securities markets.
- Prohibiting insider trading in securities, with the imposition of monetary penalties, on erring market intermediaries.

⁶¹ Preamble to the SEBI Act of 1992.

- Regulating substantial acquisition of shares and takeover of companies.
- Calling for information from, carrying out inspection, conducting inquiries and audits of the stock exchanges and intermediaries and self regulatory organizations in the securities market.

5.2.3. Insurance Regulatory and Development Board (IRDA)

The Insurance Regulatory and Development Authority Act, 1999 was enacted to establish a statutory body to regulate, promote and ensure orderly growth of insurance and reinsurance business as also to protect the interest of policy holders. The constitution of the Insurance Regulatory and Development Authority is considered as one of the most redeeming features of insurance reforms in India.⁶²

The IRDA has the duty to regulate, promote and ensure orderly growth of the insurance and reinsurance business. The powers and functions of the IRDA include:

- (a) registration/modification/cancellation of registration of insurers;
- (b) to cause compliance of the requirement of capital structure of the companies as also solvency margin, insurance business in rural and social sector, submission of their returns/reports, approval and preparation of the scheme of amalgamation and transfer of insurance business; to issue of license to insurance intermediaries or agents;
- (c) control over management of insurers;
- (d) search and seizure,
- (e) protection of interest of policy holders,
- (f) promotion and regulation of professional organizations conducting insurance business,
- (g) regulation of investment of funds by insurance companies,
- (h) investigation and inspection of the affairs of the insurers,
- (i) adjudication of disputes between insurers and insurance intermediaries,
- (j) supervising functions of Tariff Advisory Committee, and
- (k) to frame regulations to carry out purposes of the Insurance Act,1938.

⁶² Law Commission of India, Part – I, Consultation Paper On Revision Of The Insurance Act 1938 & The Insurance Regulatory & Development Act 1999 available at http://lawcommissionofindia.nic.in/consult_papers/insurance%201-27.pdf (last accessed May 10, 2010)

Pursuant to its power under the IRDA Act, the IRDA has framed 27 sets of Regulations on various topics like preparation and submission of actuarial reports, obligations of insurers to rural and social sectors, registration of Indian insurance companies, preparation of financial statements and auditor's report of insurance companies, form of annual statements of account and record, insurance brokers, etc. These regulations are important constituents of the Regulatory regime.

5.3. Regulatory Framework affecting Project Finance in India

5.3.1. Foreign Investment

'Investment' is usually understood as financial contribution to the equity capital of an enterprise or purchase of shares in the enterprise. 'Foreign investment' is investment in an enterprise by a Non-Resident irrespective of whether this involves new equity capital or re-investment of earnings. Foreign investment is of two kinds – (i) Foreign Direct Investment (FDI) and (ii) Foreign Portfolio Investment.

International Monetary Fund (IMF) and Organization for Economic Cooperation and Development(OECD) define FDI similarly as a category of cross border investment made by a resident in one economy (the direct investor) with the objective of establishing a 'lasting interest' in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long term relationship with the direct investment enterprise to ensure the significant degree of influence by the direct investor in the management of the direct investment enterprise. Direct investment allows the direct investor to gain access to the direct investment enterprise which it might otherwise be unable to do. The objectives of direct investment are different from those of portfolio investment whereby investors do not generally expect to influence the management of the enterprise. It is the policy of the Government of India to attract and promote productive FDI⁶³ from nonresidents in activities which significantly contribute to industrialization and socio-economic development. FDI supplements the domestic capital and technology.

Foreign Direct Investment by non-resident in resident entities through transfer or issue of security to person resident outside India is a 'Capital account transaction' and Government of

⁶³ 'FDI' means investment by non-resident entity/person resident outside India in the capital of the Indian company under Schedule 1 of FEM(Transfer or Issue of Security by a Person Resident Outside India) Regulations, 2000.

India and Reserve Bank of India regulate this under the FEMA, 1999 and its various regulations. Keeping in view the current requirements, the Government from time to time comes up with new regulations and amendments/changes in the existing ones through order/allied rules, Press Notes, etc. The Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce & Industry, Government of India makes policy pronouncements on FDI through Press Notes/ Press Releases which are notified by the Reserve Bank of India as amendment to notification No. FEMA 20/2000-RB dated May 3, 2000. These notifications take effect from the date of issue of Press Notes/ Press Releases. The procedural instructions are issued by the Reserve Bank of India vide A.P.Dir. (Series) Circulars. The regulatory framework over a period of time thus consists of Acts, Regulations, Press Notes, Press Releases, Clarifications, etc.

The Master Circular on Consolidated Policy on Foreign Direct Investment No.1 of 2010 consolidates into one document all the prior policies/regulations on FDI which are contained in FEMA, 1999, RBI Regulations under FEMA, 1999 and Press Notes/Press Releases/Clarifications issued by DIPP and reflects the current 'policy framework' on FDI.⁶⁴ It is clarified that this is a consolidation/compilation and comprehensive listing of most matters on FDI and is not intended to make changes in the extant regulations. This Consolidation deals comprehensively with all aspects of FDI Policy which are covered under the various Press Notes/Press Releases/ Clarifications issued by DIPP. It has been decided that from now onwards a consolidated circular would be issued every six months to update the FDI policy. This consolidated circular will, therefore, be superseded by a circular to be issued on September 30, 2010.

The extant FDI policy prohibits foreign investment in the following sectors⁶⁵:

- (a) Retail Trading (except single brand product retailing)
- (b) Atomic Energy
- (c) Lottery Business including Government /private lottery, online lotteries, etc.
- (d) Gambling and Betting including casinos etc.
- (e) Business of chit fund

⁶⁴ This circular will take effect from April 1, 2010.

⁶⁵ Master Circular on Consolidated Policy on Foreign Direct Investment No.1 of 2010 available at http://siadipp.nic.in/policy/fdi_circular/fdi_circular_1_2010.pdf (last accessed May 10, 2010)

- (f) Nidhi Company
- (g) Trading in Transferable Development Rights (TDRs)
- (h) Real Estate Business or Construction of Farm Houses
- (i) Activities / sectors not opened to private sector investment.

Besides foreign investment in any form, foreign technology collaboration in any form including licensing for franchise, trademark, brand name, management contract is also completely prohibited for Lottery Business and Gambling and Betting activities. Further, Investments can be permitted to be made by non-residents in the capital of a resident entity in certain sectors/activity with entry conditions. These entry conditions would be applicable for investment only by non-resident entities. Such conditions may include norms for minimum capitalization, lock-in period, etc. FDI in India is permitted primarily under two routes:

i. Automatic Route: FDI in sectors/activities to the extent permitted under automatic route does not require any prior approval either by the Government or RBI. The investors are only required to notify the Regional office concerned of RBI within 30 days of receipt of inward remittances and file the required documents with that office within 30 days of issue of shares to foreign investors.

ii. Government Approval Route: FDI in activities not covered under the automatic route, requires prior Government approval. Proposals for foreign investment under Government route as laid down in the FDI policy from time to time, are considered by the Foreign Investment Promotion Board (FIPB) in Department of Economic Affairs (DEA), Ministry of Finance.

A non-resident entity can invest in India, subject to the FDI Policy.⁶⁶ Indian companies including those which are micro and small enterprises can issue capital against FDI. Further, Indian

⁶⁶ Subject to FDI sectoral policy, foreign investors can also invest in Indian companies by purchasing/acquiring existing shares from Indian shareholders or from other non-resident shareholders. General permission has been granted to non-residents/NRIs for acquisition of shares by way of transfer subject to the following:

- (a) A person resident outside India (other than NRI and erstwhile OCB) may transfer by way of sale or gift, the shares or convertible debentures to any person resident outside India (including NRIs).
- (b) NRIs may transfer by way of sale or gift the shares or convertible debentures held by them to another NRI.
- (c) A person resident outside India can transfer any security to a person resident in India by way of gift.
- (d) A person resident outside India can sell the shares and convertible debentures of an Indian company on a recognized Stock Exchange in India through a stock broker registered with stock exchange or a merchant banker registered with SEBI.

companies under FDI can issue equity shares, fully, compulsorily and mandatorily convertible debentures and fully, compulsorily and mandatorily convertible preference shares subject to pricing guidelines/valuation norms prescribed under FEMA Regulations.⁶⁷ The pricing of the capital instruments should be decided/determined upfront at the time of issue of the instruments. Other types of Preference shares/Debentures i.e. non-convertible, optionally convertible or partially convertible for issue of which funds have been received on or after May 1, 2007 are

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- (e) A person resident in India can transfer by way of sale, shares/convertible debentures (including transfer of subscriber's shares), of an Indian company in sectors other than financial services sectors (i.e. Banks, NBFC, Insurance, ARCs, CICs, infrastructure companies in the securities market viz. Stock Exchanges, Clearing Corporations, and Depositories, Commodity Exchanges, etc.) under private arrangement to a person resident outside India, subject to the guidelines given in Annex-2.
 - (f) General permission is also available for transfer of shares/convertible debentures, by way of sale under private arrangement by a person resident outside India to a person resident in India, subject to the guidelines given in Annex-2.
 - (g) The above General Permission also covers transfer by a resident to a non-resident of shares/convertible debentures of an Indian company, engaged in an activity earlier covered under the Government Route but now falling under Automatic Route, as well as transfer of shares by a non-resident to an Indian company under buyback and/or capital reduction scheme of the company. However, this General Permission is not available in case of transfer of shares / debentures, from a Resident to a Non-Resident/Non-Resident Indian, of an entity engaged in any activity in the financial services sector (i.e. Banks, NBFCs, ARCs, CICs, Insurance, infrastructure companies in the securities market such as Stock Exchanges, Clearing Corporations, and Depositories, Commodity Exchanges, etc.).
 - (h) The Form FC-TRS should be submitted to the AD Category-I Bank, within 60 days from the date of receipt of the amount of consideration. The onus of submission of the Form FC-TRS within the given timeframe would be on the transferor/transferee, resident in India.

See: Master Circular on Consolidated Policy on Foreign Direct Investment No.1 of 2010 for more details.

⁶⁷ The Reserve Bank of India ('RBI') has recently issued a Notification No FEMA 205/2010-RB, dated April 7, 2010, amending the pricing guidelines that are applicable to the issue of shares to non-resident investors, as stipulated in the Foreign Exchange Management (Transfer or Issue of Security by a Person Resident Outside India) Regulations ['FEMA Regulations']. The notification was only recently reported in the Gazette of India on April 21, 2010. I have summarized below the key provisions set out in the notification:

Pricing Guidelines applicable to issue of shares to non-resident investors

1. Prior to the notification, the FEMA Regulations mandated that every Indian company should issue shares to non-resident investors at a minimum floor price, which shall not be lower than:
 - a. the price worked out in accordance with the applicable Securities and Exchange Board of India ('SEBI') guidelines, if the shares of the Indian company were listed on a recognized stock exchange in India, and
 - b. the fair valuation of shares to be undertaken by a Chartered Accountant, in accordance with the guidelines issued by the erstwhile Controller of Capital Issues ('CCI Guidelines'), in all other cases.
2. The RBI has now amended the FEMA Regulations to mandate that every Indian company shall issue shares to non-resident investors at a minimum floor price, which shall not be lower than:
 - i. the price worked out in accordance with the applicable SEBI guidelines, if the shares of the Indian company are listed on a recognized stock exchange in India;
 - ii. the fair valuation of shares to be undertaken by a SEBI registered Category I Merchant Banker or a Chartered Accountant, as per the Discounted Free Cash Flow ('DFCF') method, if the shares of the Indian company are not listed on a recognized stock exchange in India; and
 - iii. the price as applicable to transfer of shares from an Indian resident to a non-resident investor, as per the pricing guidelines laid down by the RBI from time to time, where the issue of shares is a preferential allotment.

considered as debt.⁶⁸ Accordingly all norms applicable for ECBs relating to eligible borrowers, recognized lenders, amount and maturity, end-use stipulations, etc. shall apply. Since these instruments would be denominated in rupees, the rupee interest rate will be based on the swap equivalent of London Interbank Offered Rate (LIBOR) plus the spread as permissible for ECBs of corresponding maturity. The inward remittance received by the Indian company vide issuance of DRs and FCCBs are treated as FDI and counted towards FDI.⁶⁹

Conversion of ECB/Lump sum Fee/Royalty into Equity.

Under the extant FDI Policy, Indian companies have been granted general permission for conversion of External Commercial Borrowings (ECB) (excluding those deemed as ECB) in convertible foreign currency into shares/preference shares, subject to the following conditions and reporting requirements.

- (a) The activity of the company is covered under the Automatic Route for FDI or the company has obtained Government approval for foreign equity in the company;
- (b) The foreign equity after conversion of ECB into equity is within the sectoral cap, if any;
- (c) Pricing of shares is as per SEBI regulations or erstwhile CCI guidelines in the case of listed or unlisted companies respectively;
- (d) Compliance with the requirements prescribed under any other statute and regulation in force; and
- (e) The conversion facility is available for ECBs availed under the Automatic or Government Route and is applicable to ECBs, due for payment or not, as well as secured/unsecured loans availed from non-resident collaborators.

Further, general permission is also available for issue of shares/preference shares against lump sum technical know-how fee, royalty, under automatic route or SIA/FIPB route, subject to pricing guidelines of SEBI/CCI and compliance with applicable tax laws.⁷⁰

⁶⁸ Foreign Investment in Preference Shares – Revised Guidelines, RBI/2006-2007/434 A.P. (DIR Series) Circular No.73 dated June 8, 2007

⁶⁹ Master Circular on Consolidated Policy on Foreign Direct Investment No.1 of 2010 available at http://siadipp.nic.in/policy/fdi_circular/fdi_circular_1_2010.pdf (last accessed May 10, 2010)

⁷⁰ Master Circular on Consolidated Policy on Foreign Direct Investment No.1 of 2010 available at http://siadipp.nic.in/policy/fdi_circular/fdi_circular_1_2010.pdf (last accessed May 10, 2010)

Restrictions on Downstream Investment

Further, though Investment in Indian companies can be made both by non-resident as well as resident Indian entities. Any non-resident investment in an Indian company is direct foreign investment. Investment by resident Indian entities could again comprise of both resident and non-resident investment. Thus, such an Indian company would have indirect foreign investment if the Indian investing company has foreign investment in it. The indirect investment can also be a cascading investment i.e. through multi-layered structure. For the purpose of computation of indirect Foreign investment, Foreign Investment in Indian company shall include all types of foreign investments i.e. FDI; investment by FIIs (holding as on March 31); NRIs; ADRs; GDRs; Foreign Currency Convertible Bonds (FCCB); fully, compulsorily and mandatorily convertible preference shares and fully, compulsorily and mandatorily convertible Debentures regardless of whether the said investments have been made under Schedule 1, 2, 3 and 6 of FEMA (Transfer or Issue of Security by Persons Resident Outside India) Regulations.

(i) Counting the Direct Foreign Investment: All investment directly by a non-resident entity into the Indian company would be counted towards foreign investment.

(ii) Counting of indirect foreign Investment: (a) The foreign investment through the investing Indian company would not be considered for calculation of the indirect foreign investment in case of Indian companies which are 'owned and controlled' by resident Indian citizens and/or Indian Companies which are owned and controlled by resident Indian citizens . (b) For cases where condition (a) above is not satisfied or if the investing company is owned or controlled by 'non resident entities', the entire investment by the investing company into the subject Indian Company would be considered as indirect foreign investment, Provided that, as an exception, the indirect foreign investment in only the 100% owned subsidiaries of operating-cum-investing/investing companies, will be limited to the foreign investment in the operating-cum-investing/ investing company. This exception is made since the downstream investment of a 100% owned subsidiary of the holding company is akin to investment made by the holding company and the downstream investment should be a mirror image of the holding company. This exception, however, is strictly for those cases where the entire capital of the downstream subsidiary is owned by the holding company.⁷¹

⁷¹ Master Circular on Consolidated Policy on Foreign Direct Investment No.1 of 2010 available at http://siadipp.nic.in/policy/fdi_circular/fdi_circular_1_2010.pdf (last accessed May 10, 2010)

5.3.2. External Commercial Borrowings.

External Commercial Borrowings (ECB) refer to commercial loans in the form of bank loans, buyers' credit, suppliers' credit, securitized instruments (e.g. floating rate notes and fixed rate bonds) availed of from non-resident lenders with minimum average maturity of 3 years. Foreign Currency Convertible Bonds (FCCBs) mean a bond issued by an Indian company expressed in foreign currency, and the principal and interest in respect of which is payable in foreign currency. Further, the bonds are required to be issued in accordance with the scheme viz., "Issue of Foreign Currency Convertible Bonds and Ordinary Shares (through Depository Receipt Mechanism) Scheme, 1993", and subscribed by a non-resident in foreign currency and convertible into ordinary shares of the issuing company in any manner, either in whole, or in part, on the basis of any equity related warrants attached to debt instruments. The policy for ECB is also applicable to FCCBs.⁷² Foreign Currency Exchangeable Bond (FCEB) means a bond expressed in foreign currency, the principal and interest in respect of which is payable in foreign currency, issued by an Issuing Company and subscribed to by a person who is a resident outside India, in foreign currency and exchangeable into equity share of another company, to be called the Offered Company, in any manner, either wholly, or partly or on the basis of any equity related warrants attached to debt instruments. The FCEB must comply with the "Issue of Foreign Currency Exchangeable Bonds (FCEB) Scheme, 2008", notified by the Government of India, Ministry of Finance, Department of Economic Affairs vide Notification G.S.R.89(E) dated February 15, 2008. The guidelines, rules, etc governing ECBs are also applicable to FCEBs.⁷³

5.3.3. Corporate Governance

Corporate Governance is regulated by both the Ministry of Corporate Affairs and SEBI. In India, SEBI (Security Exchange Board of India) has taken up the task of building the regulatory norms for the smooth functioning of the companies. The Corporate Governance rules laid down by SEBI in the listing agreement⁷⁴ in Stock Exchanges, especially for listed companies, are

⁷² The issue of FCCBs is also required to adhere to the provisions of Notification FEMA No. 120/RB-2004 dated July 7, 2004, as amended from time to time.

⁷³ Master Circular on External Commercial Borrowings and Trade Credits, RBI/2009-10/ 27 Master Circular No. 07/2009-10 dated July 1, 2009 available at http://rbidocs.rbi.org.in/rdocs/notification/PDFs/27ECB010709_F.pdf (last accessed May 10, 2010)

⁷⁴ Clause 49 of the listing agreement with stock exchanges provides the code of corporate governance prescribed by SEBI for listed Indian companies. With the introduction of clause 49, compliance with its requirements is mandatory for such companies.

particularly stringent in nature. Further, the Ministry of Corporate Affairs has proposed the New Companies Bill 2008 which aims to improve corporate governance by vesting greater powers in shareholders. These have been balanced by greater emphasis on self-regulation, minimization of regulatory approvals and increased and more transparent disclosures.⁷⁵

5.3.4. Environmental Approval

The Ministry of Environment & Forests (MoEF) is the nodal agency in the administrative structure of the Central Government for the planning, promotion, co-ordination and overseeing the implementation of India's environmental and forestry policies and programmes. The primary concerns of the Ministry are implementation of policies and programmes relating to conservation of the country's natural resources including its lakes and rivers, its biodiversity, forests and wildlife, ensuring the welfare of animals, and the prevention and abatement of pollution. While implementing these policies and programmes, the Ministry is guided by the principle of sustainable development and enhancement of human well-being.

The broad objectives of the Ministry are:

- Conservation and survey of flora, fauna, forests and wildlife
- Prevention and control of pollution
- Afforestation and regeneration of degraded areas
- Protection of the environment and
- Ensuring the welfare of animals

These objectives are well supported by a set of legislative and regulatory measures, aimed at the preservation, conservation and protection of the environment. Besides the legislative measures, the National Conservation Strategy and Policy Statement on Environment and Development, 1992; National Forest Policy, 1988; Policy Statement on Abatement of Pollution, 1992; and the National Environment Policy, 2006 also guide the Ministry's work.

The Environment Impact Assessment Notification S.O.60(E), dated 27/01/1994 has made it mandatory that any person who desires to undertake any new project in any part of India or the

⁷⁵ The State of Corporate Governance in India, KPMG Report – 2009, available at <http://www.kpmg.fi/Binary.aspx?Section=174&Item=5486> (last accessed May 10, 2010)

expansion or modernization of any existing industry or project listed in the Schedule-I shall submit an application to the Secretary, Ministry of Environment and Forests, New Delhi.⁷⁶ The application shall be made in the proforma specified in Schedule II and shall be accompanied by a project report which shall, *inter alia*, include an Environmental Impact Assessment Report/Environment Management Plan prepared in accordance with the guidelines issued by the Central Government in the Ministry of Environment and Forests from time to time. In case of the following site specific projects:

- mining;
- pit- head thermal power stations;
- hydro-power, major irrigation projects and/or their combination including flood control;
- ports and harbours;
- prospecting and exploration of major minerals in areas above 500 ha.;

The project authorities will intimate the location of the project site to the Central Government in the Ministry of Environment and Forests while initiating any investigations and surveys. The Central Government in the Ministry of Environment and Forests will convey a decision regarding suitability or otherwise of the proposed site within a maximum period of 30 days. The said site clearance shall be granted for a sanctioned capacity and shall be valid for a period of five years for commencing the construction, operation or mining.⁷⁷

Further, the Ministry has issued the Environmental Impact Assessment Notification, 2006, which makes environmental clearance mandatory for the development activities listed in its schedule.⁷⁸ Environmental Impact Assessment (EIA) is an important management tool for ensuring the optimal use of natural resources for sustainable development. Environmental Management or planning is the study of the unintended consequences of a project. Its purpose is to identify, examine, assess and evaluate the likely and probable impacts of a proposed project on the

⁷⁶ Ministry of Environment & Forests, available at [http://envfor.nic.in/legis/eia/so-60\(e\).html](http://envfor.nic.in/legis/eia/so-60(e).html) (last accessed May 10, 2010).

⁷⁷ Requirements and Procedure for seeking Environmental Clearance of Projects, Ministry of Environment and Forests, Government of India available at <http://moef.gov.in/citizen/specinfo/envclr.html> (last accessed May 10, 2010)

⁷⁸ The Ten Sectors under the Schedule are: 1. Mining; 2. Mineral beneficiation; 3. Ports Harbours; 4. Airports; 5A. Building Constructions; 5B. Townships; 6. Asbestos; 7. Highways; 8. Coal Washery; 9. Aerial Ropeways; 10. Nuclear Power Plants, Nuclear Fuel Processing Plants and Nuclear Waste Management Plans.

environment and, thereby, to work out remedial action plans to minimize adverse impact on the environment.

Further, there are various other environmental Acts under which clearances need to be taken before an Infrastructure Project receives approval. Some of them are discussed briefly:⁷⁹

- ***The Water (Prevention and Control of Pollution) Act*** was enacted in 1974 to provide for the prevention and control of water pollution, and for the maintaining or restoring of wholesomeness of water in the country. The Act was amended in 1988.
- ***The Water (Prevention and Control of Pollution) Cess Act*** was enacted in 1977, to provide for the levy and collection of a cess on water consumed by persons operating and carrying on certain types of industrial activities. This cess is collected with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974. The Act was last amended in 2003.
- ***The Air (Prevention and Control of Pollution) Act*** was enacted in 1981 and amended in 1987 to provide for the prevention, control and abatement of air pollution in India.
- ***The Environment (Protection) Act*** was enacted in 1986 with the objective of providing for the protection and improvement of the environment. It empowers the Central Government to establish authorities [under section 3(3)] charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country. The Act was last amended in 1991.
- The main objective of the ***Public Liability Insurance Act 1991*** is to provide for damages to victims of an accident which occurs as a result of handling any hazardous substance. The Act applies to all owners associated with the production or handling of any hazardous chemicals.
- The Government of India enacted ***Wild Life (Protection) Act 1972*** with the objective of effectively protecting the wild life of this country and to control poaching, smuggling and illegal trade in wildlife and its derivatives. The Act was amended in January 2003 and

⁷⁹ Ministry of Environment and Forests, Government of India available at <http://moef.nic.in/modules/rules-and-regulations> (last accessed May 10, 2010).

punishment and penalty for offences under the Act have been made more stringent. The Ministry has proposed further amendments in the law by introducing more rigid measures to strengthen the Act. The objective is to provide protection to the listed endangered flora and fauna and ecologically important protected areas.

- The *Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006*, recognizes the rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers over the forest areas inhabited by them and provides a framework for according the same.
- Under the provisions of the *Forest (Conservation) Act, 1980* , prior approval of the Central Government is essential for diversion of forest lands for the non-forestry purposes. In the national interest and in the interest of future generations, this Act, therefore, regulates the diversion of forest lands to non-forestry purposes.
- The *Indian Forest Act, 1927* consolidates the law relating to forests, the transit of forest-produce and the duty leviable on timber and other forest-produce.
- The *Biological Diversity Act, 2002* was born out of India's attempt to realize the objectives enshrined in the United Nations Convention on Biological Diversity (CBD) 1992 which recognizes the sovereign rights of states to use their own Biological Resources. The Act aims at the conservation of biological resources and associated knowledge as well as facilitating access to them in a sustainable manner and through a just process. For purposes of implementing the objects of the Act it establishes the National Biodiversity Authority in Chennai.

CHAPTER - 6

CONSTRAINTS TO INFRASTRUCTURE FINANCING

Infrastructure projects are complex, capital intensive, long gestation projects that involve multiple and often unique risks to project financiers. Infrastructure projects are characterized by non-recourse or limited recourse financing, i.e., lenders can only be repaid from the revenues generated by the project. This limited recourse characteristic, and the scale and complexity of an infrastructure project makes financing a tough challenge. This challenge is further compounded by two factors. First, a combination of high capital costs and low operating costs implies that initial financing costs are a very large proportion of the total costs. Second, infrastructure project financing calls for a complex and varied mix of financial and contractual arrangements amongst multiple parties, including the project sponsors, commercial banks, domestic and international financial institutions (FIs), and government agencies.

Having identified the key constraints in the first chapter, let us now try to understand these constraints in detail.

6.1. Raising adequate Equity financing

Raising adequate equity finance tends to be the most challenging aspect of infrastructure project financing, as equity typically shoulders the greatest level of operational, financial and market risk. Equity can be provided by project sponsors (those who have an operational interest in the contract) or financial investors (those who have only an investment interest). In India, as in many other countries, the early phase of private financing of infrastructure has shown a predominance of *sponsor equity*. But the ability of sponsors to raise equity from the primary market remains limited. First, infrastructure companies or project sponsors typically have much higher gearing than other corporates, which makes them unattractive candidates in the securities market. Second, not only are the projects operationally complex but also, involve complexities in terms of contracts, legal structures, right of first charge on assets etc. Consequently, investors, especially retail investors, find it difficult to understand the true risks involved — and are wary of investing in such issues. However, at present, equity financing by financial investors is constrained by the following factors:

- *Limited exit options constrain equity participation*
- *Additional constraints to equity investment include a shallow capital market (albeit continuously improving), and corporate governance issues (primarily minority shareholder protection rights).*

6.2. Limited mezzanine financing

In the developed world, many infrastructure projects are part-funded through 'mezzanine finance', which is a hybrid of debt and equity. Mezzanine finance is debt capital with fixed payment or repayment requirements, but with the right to convert to an equity interest in a company. Mezzanine is generally subordinated debt. It carries two advantages: first, it attracts investors by offering a rate of return which is higher than that of senior debt and second, on the balance sheet of a company, it is treated like quasi-equity, which makes it easier to increase the component of the usual bank or financial institution loans. Also, since subordinated debt is not a loan, FIs do not insist on escrow backing for such funding.

Mezzanine finance is typically found with venture capital companies and/or alternative lending institutions seeking a higher rate of return. Unfortunately, there is no infrastructure funding entity that has actively explored mezzanine financing in India in any sizeable amounts. The reasons for this include the following:

- *First, an impediment to the use of mezzanine financing is the lack of a sufficiently large and varied pool of infrastructure projects.* When projects and financiers are few and far between, and when modern infrastructure financing is in its nascent stages, there is a preference for funding institutions to opt for more straightforward loans than hybrids.
- *Second, interest rate caps on external commercial borrowing (ECBs) constrain the use of mezzanine financing by foreign investors.* The interest rate caps make no provision for pricing different debt or quasi-equity instruments commensurately with the risks associated with them.
- *Third, regulatory norms and premium pricing are also factors that weigh against mezzanine financing.* The norms for provisioning against Non-Performing Assets (NPA) do not make a distinction between senior debt and subordinated debt; the latter deserves more liberal treatment given its quasi-equity nature. Also, sponsors with projects that are

at the margin in terms of profitability find the 'premium' demanded for subordinated debt over senior debt by a host of risk-averse lenders far too excessive—enough to turn a potentially profitable venture into an unviable one. As the situation stands today, most domestic lenders (banks and FIs) prefer to provide senior debt to 'bankable' projects with a lower

6.3. An underdeveloped corporate bond market and the lack of long-term financing

Most infrastructure projects fructify into profit making entities 10 to 15 years after the initial investment and hence require longer tenor financing (with long drawn out repayments) to ensure financial viability of the project. The availability of a developed bond market is an important backbone to project financing for infrastructure as it increases the prospects for project finance banks to eventually off-load their assets, and for project companies to lock in fixed interest rates at lower margin when the project has stabilized after a few years of operation. The lack of size and depth in India's corporate bond market may be attributed to three broad sets of issues viz., development of government securities market, lack of market infrastructure and innovations in the corporate debt market and regulatory issues.

6.4. Current Regulatory Framework

Sixteen years of reforms have created a fairly sound regulatory framework. There has been a convergence towards global best practices in areas like prudential regulation of the banking system, securities regulation, and insurance regulation. Substantial deregulation of interest rates, the shift from merit-based regulation to disclosure-based regulation of securities offerings, and the move towards de-tariffing of insurance products are significant steps towards the creation of a modern regulatory framework for the financial sector. Though the task is by no means complete, the groundwork that has been laid will allow us to move rapidly towards the regulatory architecture that is appropriate for a country of India's size and aspirations. While building on past successes, it is also important to remember there are deficiencies in the current regulatory system.

A problem with the current regulatory structure is that it is much more vulnerable to regulatory capture because each regulator regulates only a narrow set of intermediaries. A narrow regulator

is more easily persuaded to adopt regulations that shield its regulated entities from competition. A unified regulator is less vulnerable to this kind of capture because it faces countervailing pressure from different segments of the regulated.

Multiplicity of regulators creates severe problems in inter-agency coordination. Experience around the world suggests that this problem is very difficult to solve even with strong structural mechanisms for coordination. In India, these coordination mechanisms are also quite weak. Coordination problems are aggravated by the variation in skills and experience across regulators (sometimes related to novelty of area being regulated).

Some of the problems that arise from the current regulatory framework has been highlighted in the *Report of the Committee on Financial Sector Reforms under the Chairmanship of Shri Raghuram Rajan*.⁸⁰ They are as follows:

- Regulators often have unclear, sometimes mutually inconsistent, and infeasible objectives as in the case of the RBI's mandate regarding exchange rates, inflation, and growth. Objectives have not kept pace with changes in the economy.
- Regulators also suffer from conflicts of interest, some explicit (such as the one between monetary policy and management of the public debt, which is being resolved by separation of function) and some implicit, such as a widely perceived desire to protect certain kinds of institutions and certain forms of ownership.
- Regulated entities sense pervasive risk aversion on the part of the regulators, reflected in 'zero tolerance by the regulator for deviation from letter of law', and potential regulatory prohibition even if the activity is currently permitted by the letter of the law. This could be partly due to the limited capacity, experience, and skills of regulatory staff. But it is also partly due to the atmosphere of distrust associated with vigilance processes in the government, and the open ended nature of parliamentary investigation into alleged or real regulatory lapses.
- Regulators confront immense heterogeneity in the entities they regulate, as well as in the investors and customers whom they protect. This heterogeneity is in terms of experience,

⁸⁰ Report of the Committee on Financial Sector Reforms under the Chairmanship of Shri Raghuram Rajan, Ministry of Finance, Government of India, 2009 p.137.

capital, capabilities, as well as honesty. Regulators respond to this heterogeneity by targeting their regulations at the lowest common denominator.

- Frank communication between the regulator and the regulated could improve the regulatory environment, but all too frequently it is inadequate. The regulated have little incentive to be frank for fear it might elicit more micromanagement.
- Given difficult objectives, regulatory risk aversion, heterogeneous regulated entities, as well as a legacy of command and control and substantial discretionary powers, regulators appear to protect themselves through a resistance to innovation, aversion to risk, as well as through micromanagement, even if the costs are obvious.

6.5. Regulatory issues

6.5.1. Overlap in regulation of the debt markets. The existence of regulatory barriers arising from capital/financial markets could be explained in part due to regulatory overlaps in the debt markets and in part due to the fact that bond markets are difficult to develop and creating the right regulatory and market conditions for an efficient bond market is a gradual process. In the debt markets, Ministry of Finance (MoF), RBI and Securities and Exchange Board of India (SEBI) all have regulatory and supervisory roles that are not sufficiently delineated. As investment banker to GoI, the RBI oversees the Government debt market, and conducts primary issuance for the Government's debt requirements in the domestic bond markets. RBI is also responsible for regulation and policy for over-the-counter (OTC) financial derivatives and spot markets for government bonds. In addition, RBI regulates the largest of investors and issuers in the bond markets viz. the banks and financial institutions.

On the corporate debt market, SEBI is responsible for regulating and supervising primary offerings of securities (equity and debt instruments) by companies that are listed, or to be listed on an exchange as well as secondary trading, clearing and settlement of all instruments (including financial derivatives) traded on stock exchanges. The overlap in regulation and different focus of each authority tends to inhibit coordination between the regulators leading to impediments in development of new products and innovation in the design of debt markets which could lead to more efficient and safer issuance, trading, clearing and settlement mechanisms.

As markets develop and mutual funds evolve, bond funds are likely to hold a variety of instruments as is the case with 'income' funds in mature markets, SEBI will clearly have jurisdiction over such bond funds. To the extent that corporate bond issuers interface with entities such as banks for arrangements such as trusteeship and guarantees of payments, the recording of such arrangements on banks' books would require RBI oversight. In this context, the establishment of good mechanisms for regulatory information sharing and coordination are important. Such overlaps and jurisdiction issues will increase as financial markets become more complex and open, thereby increasing the challenge of regulating and supervising them.

6.5.2. Regulatory and institutional issues constraining higher participation of FIs and commercial banks. It is widely accepted that insurance companies and pension funds are ideal candidates for supplying long tenor financing given the long tenor nature (15 years or more) of their liabilities. But with a few notable exceptions, in recent times, most insurance companies and pension funds have not focused on funding infrastructure. Commercial banks have also had little appetite for infrastructure financing²⁶, although recent years have witnessed an increase in their lending to infrastructure.

The Industrial Development Bank of India (IDBI)⁸¹ report on the sanctions and disbursements of FIs reveals that the total loans sanctioned by these institutions towards infrastructure in the first three years of the period 2001-02 to 2010-11 has been Rs.460.6 billion, or a mere 8.3 percent of our estimated aggregate financing gap of Rs.5,542 billion. At this rate, the total sanctions for infrastructure projected forward for the decade 2001-02 to 2010-11 turns out to be a little more than Rs.1,500 billion, or 28 percent of the aggregate finance gap. Clearly, these FIs have a long way to go. Moreover, while sanctions have been low compared to the financing gaps in infrastructure, disbursements have been lower still. For the three years ending 2003-04, total disbursement of the FIs has been Rs.287.6 billion, which translates to 5.2 percent of the finance gap for 2001-02 to 2010-11.

⁸¹ The Industrial Development Bank of India (IDBI)'s annually prepares a report of the sanctions and disbursements of FIs, including towards the infrastructure sectors. The list of institutions included in this report are IDBI, IFCI, ICICI Bank, IIBI, IDFC and SIDBI (which are classified as all-India development banks), specialized FIs such as the Exim Bank and NABARD, and investment institutions i.e. LIC, GIC, NIC, NIA, OIC, UII and UTI.

Among the various term-lending institutions, LIC (the largest insurance company in India that is also state-owned) has emerged as the biggest player, with its disbursements for infrastructure projects exceeding the combined disbursements of IDBI, IFCI, IDFC, IIBI and SIDBI. However, most of the involvement of the state-owned insurance companies, including LIC, is in infrastructure projects of the central and state governments' SOEs backed by government guarantees. These are often not based on credibility or the detailed economics of the project. In fact, in the past, state governments have raised funds from the insurance SOEs ostensibly for financing infrastructure, which have then been diverted to the state's consolidated finances. Commercial banks have only been marginal players in terms of their share of infrastructure financing in the recent past, though this segment has registered strong growth in the last two years.

Within the sectors, FIs have a much higher appetite to lend for power projects than others. Power generation accounts for 62 percent of the value of infrastructure loans sanctioned and 55 percent of disbursements. Telecommunication comes second, accounting for 20 percent of total infrastructure sanctions, and 24 percent of disbursements.

The risk-aversion of FIs in financing infrastructure projects further manifests itself in their reluctance to enter projects at the early stages, where project risks are concentrated. One of the main reasons cited for viable projects not reaching financial closure quickly enough has been the lack of financial support at the initial stage of a project's life cycle. Commercial banks, of course, rarely take equity positions in infrastructure projects. Unfortunately, even the specialized infrastructure financing companies, such as Infrastructure Leasing and Financial Services Ltd. (IL&FS) and Infrastructure Development Finance Company (IDFC), have preferred to enter projects only after the Commercial Operations Date (COD) phase. Critics point out that the rationale for setting up these specialized institutions was precisely to take initial equity positions in these ventures, and provide the confidence necessary to attract further capital into the project.

6.5.3. Restrictions on ECBs

Given the risk aversion and/or relative inexperience of many financial intermediaries in India in the area of infrastructure financing, external financial resources (ECBs, mezzanine, equity, etc.)

can potentially play an important role in meeting funding gaps. Recent amendments to government policy on ECBs provide for greater flexibility regarding infrastructure related projects. Revised ECB guidelines now allow (i) companies to access ECB for undertaking infrastructure investment activity in India, (ii) borrowings under the approval route by FIs dealing exclusively with infrastructure. The maximum amount of ECB that can be raised by Indian companies under the automatic route in any financial year was increased to \$500 million, with minimum average maturity of three years for loans up to \$20 million, and of five years for loans above \$20 million. Of late, there has been a growth of ECB (through the approvals route) for infrastructure, from \$270 million in 2001-02 to nearly \$1.9 billion in 2003-4.

Despite the welcome increase in ECB for infrastructure, the fact still remains that external funds are significantly inadequate compared to the needs. This may be attributed to the following:

- *One concern raised by investors is the interest rate cap on ECBs.* According to the ECB guidelines, interest rates are capped at Libor+200 basis points for loans with an average maturity of 3-5 years, and at Libor+350 basis points for loans with an average maturity of more than five years. It has been argued that, while these caps may be adequate for 'normal' industrial projects, they are too low to attract funds for riskier infrastructure projects.
- *An even greater constraint in utilizing foreign currency loans is the lack of a sufficiently deep forwards-market in foreign exchange.* Infrastructure projects require long tenor loans, and if financed through foreign currency borrowings these need to be adequately hedged against currency risks since few infrastructure projects have forex earnings to serve as a natural hedge. Inability to hedge long term currency risk in a market which is limited to one year's forward cover poses a big challenge to the use of foreign currency loans in these projects.

6.6. Restrictive government policies and regulatory guidelines

Restrictive government policies and regulatory guidelines have further constrained the ability of insurance companies and pension funds to participate in infrastructure financing. For commercial banks, while RBI regulations do not pose serious constraints for banks to increase their exposure

to infrastructure sectors, the flexibility of banks to become more active in this segment is constrained by RBI's regulations that prevent banks from participating in the credit derivatives markets. This precludes banks from taking on higher credit risk with the option of hedging these risks to the extent needed through these products.

Furthermore, the skewed incentive systems of the larger (publicly owned) FIs, that have traditionally operated in an uncompetitive environment, have led to conservative *internal* investment guidelines of FIs, giving little space for investment in areas like infrastructure, that are perceived as risky. Until recently, in the absence of competition, the investment departments of these institutions merely functioned as administrators of funds, without any significant performance pressures on returns. Any shortfall on guaranteed returns to pension and insurance plans were expected to be met through government support. But this is changing as competition increases.

6.7. Approvals, Red tape and Inadequate Administrative Capacity in Government

Almost all infrastructure projects in India suffer from unacceptable delays. Some of these relate to inadequate regulatory frameworks. However, much of it has to do with cascading level of inefficiencies across virtually all approving agencies. Given below are some of these barriers.

6.7.1. Multiple Clearances

Multiple clearances Infrastructure projects require multiple clearances at centre, state and local levels. This is a time consuming process not only due to the sheer number of approvals but also because clearances are sequential, and not concurrent.²⁹

According to most developers and financiers, the time taken to obtain all the requisite approvals for an infrastructure project can vary between a low of 18 months to as much as four to five years. For example, it took more than two years for the Gujarat Pipavav port project to receive the necessary clearances after achieving financial closure on the project. Delays like these in getting government approvals, places India very unfavorably compared to China and South-East Asia.

In spite of the theoretical concept of a single window clearance in many states, when most projects apply for approvals at the state-level, these have to go through multiple clearances from local panchayats, municipalities, forest, environment board etc which cause huge delays in completion. In many cases, the concession agreements entered into by individual departments do not have pre-approved clearances from the Finance Department, leading to further delays. Further, there is a lack of coordination between government ministries / departments. Most infrastructure projects involve dealing with multiple ministries. One of the key reasons for projects not taking off at the pre-financing stage is that the actions and policies of different ministries are not coordinated and are often at variance with each other. This is particularly true for the power sector, where even if the developer obtains the requisite permission for setting-up of a generation facility, he finds it difficult to start operations because of lack of clearance for fuel supply, which involves some two other ministries. Similar problems exist regarding the Ministry of Environment. There are no IIGs except in power. The recently set up IIG for power has proved to be an effective way to expedite PPP investments in the sector. Such groups have not been formed for other sectors, and their absence has impeded the developers' ability to achieve financial closure and complete the necessary formalities on time.

6.7.2. Limited capacity within government to execute PPPs in infrastructure

Both the central government and the states are aiming to use PPPs more intensively to help meet gaps in the provision of basic services in the country. These PPPs can help meet the infrastructure gap in India, but are not a panacea. They represent a claim on public resources that needs to be understood and assessed. They are often complex transactions, needing a clear specification of the services to be provided and an understanding of the way risks are allocated between the public and private sector. Their long-term nature means that the government has to develop and manage a relationship with the private providers to overcome unexpected events that over time can disrupt even well-designed contracts. Financiers of these projects critically evaluate a project in terms of all design features mentioned above and hence the ability to conceptualize and structure a PPP from the government's side is a key variable in determining the viability of, and the willingness of FIs and banks to finance the project.

The capacity to effectively conceptualize, procure and manage these PPPs is very limited within the public sector – both organizationally (legal frameworks, procures, guidelines etc) and at the individual level. Internationally, governments embarking on PPP programs have often developed new policy, legal and institutional frameworks, individual training and technical support to provide the required organizational and individual capacities. A similar comprehensive effort at building capacity to facilitate PPPs is needed by the central and state governments

6.8. Fiscal Barriers

An enabling fiscal environment is a pre-requisite for attracting private sector players to inherently high risk ventures. The GoI has introduced tax concessions, and these have helped. GoI has also introduced VGF for infrastructure projects that are being operationalised currently. While tax concessions are not necessarily desirable per se, they help increase returns and hence in certain situations can help stimulate private investment. In this context, there are some fiscal issues that need to be ironed out in order to give further fillip to infrastructure sectors. Some of these are identified below.

6.8.1. Tax holidays under section 80IA

Section 80IA of the Income Tax Act relates to infrastructure projects and provides for 100 percent tax deduction on profits for 10 years and 50 percent for the next five. There are two issues with this seemingly beneficial provision:

- First, most infrastructure projects, especially those in roads, power and ports, take up to 7-8 years before starting to show profits. Therefore, providing for a 100 percent tax holiday over the first 10 years does not actually amount to a serious fiscal incentive.
- Second, even this limited fiscal incentive is overridden by the Minimum Alternate Tax (MAT), which is levied at 7.5 percent on book profits. Consequently, the fiscal benefits from section 80IA get significantly diluted at the ground level.

6.8.2. High customs duties on infrastructure equipment

While there are import duty concessions available to imports used for infrastructure development, such as in the case of mega power projects, certain telecom equipment etc., these are largely selective in nature. For instance, while equipment for mega-power projects can be

imported against zero or low duties, the same facility is not available for capital goods used in roads. It has been suggested that the government create a master list of all key capital goods and machinery used for roads, power, ports, airports, telecom and water supply and distribution, and make these available at zero duty. In large measure, this is what China has done in the recent past, which has significantly reduced its cost of setting up infrastructure.

6.8.3. Poor state government finances

Nearly all states suffer from serious fiscal imbalances and are ridden with huge debt obligations. The debt to GDP ratio of states has increased by over 7 percent in the last five years to 29.1 percent (31 March 2004). In 2003-04 interest payments on debt accounted for over 25 percent of revenue receipts. Apart from the increasing level of debt, the outstanding guarantees of state governments have also recorded a sharp increase from 4.4 percent of GDP in March 1996 to 7.5 percent of GDP, or Rs.1,842 billion. Clearly, in such a situation, states are not the most bankable business partners for private sector participation in infrastructure.

6.9. Regulatory Barriers by RBI

There are three regulatory barriers that have been mentioned by infrastructure players across the-board, all of which have to do with RBI regulations. At present, the RBI rules state that 40 percent of a domestic scheduled commercial bank's loans and advances (and 32 percent of a foreign bank's) should be directed to the so-called 'priority sectors', which comprise agriculture, small scale industries, khadi and village industries and a classified list of other small scale businesses. Infrastructure sectors such as those examined in this note fall outside the definition of priority sector. It has been argued by several banks that, given the critical importance of infrastructure, it too should be considered as a priority sector.

Further, scheduled commercial banks are required to maintain with RBI on a fortnightly basis an average cash balance or CRR amounting to 3.5 percent of the total of the Net Demand and Time Liabilities (NDTL) in India. SLR is peculiar to India, which mandates that scheduled commercial banks must keep 25 percent of their total demand and time liabilities in India in cash, gold or approved government securities. The reason for both is to maintain a safe liquidity in banking system, although the SLR requirement makes it easier for the central government to pre-empt

depositors' funds. It has been suggested by many banks that since 15-20 year AAA rated infrastructure bonds are of long maturity and carry no short term liquidity risks, liabilities on account of the sale of such instruments should be considered outside the purview of SLR and CRR.

Further, as mentioned earlier, long gestation infrastructure ECBs may not be readily forthcoming in a regulatory regime that imposes a cap of LIBOR plus 350 basis points. It has been suggested by several infrastructure players that for infrastructure loans above five years maturity, there should either be no cap on interest rate or, at the very least, the cap should be doubled to 700 basis points above LIBOR.

PART – C

PUBLIC PRIVATE PARTNERSHIPS IN INDIA

CHAPTER – 7

PUBLIC PRIVATE PARTNERSHIPS

7.1. PPP – A New Source of Finance

During the last decade, the Indian economy has experienced an unprecedented growth rate. Poor infrastructure has, however, become one of the major stumbling blocks that can endanger sustainability of this high growth rate. Infrastructural logjam seems to be a greater danger to growth than the current global recession. The infrastructure is both inadequate as well as of poor quality. For example, Roads are the dominant form of surface transport in India.⁸² Yet, Indian roads are of poor quality, congested and unsafe. Only 14 percent of national highways are four laned. In fact, road-density is rather small at 2.75 km per 1000 people and 770 km per 1000 sq. km. while world averages are 6.7 and 841, respectively.⁸³ Compared to China, its major economic rival, Indian road network is rather poor.⁸⁴ China invests as much as 10 times more on roads than India does. The gap between the availability of road infrastructure and its demand is huge and growing.⁸⁵

Various empirical studies suggest that efficient and extensive transport linkages are necessary to improve economic efficiency and expand the growth frontier.⁸⁶ Given the heavy reliance on roads for both freight and passenger movements, investment in the road infrastructure in India can pave the way to growth and other economic objectives. Such an investment has a multiplier effect on crucial sectors of the economy; for example, cement, construction, steel, etc. The current economic slowdown makes investment in roads all the more crucial. However, the

⁸² The national roads carry about 65 percent of freight and 80 percent of passenger traffic. Highways/Expressways constitute about 2 percent of all roads but carry as much as 40 percent of the road traffic.

⁸³ *India Infrastructure* (2008 August issue).

⁸⁴ During last decade China has made huge investment in roads at national, provincial as also at village levels. For details see Ojima Makoto, "Private Sector Participation in the Road Sector in China", *Transport and Communications Bulletin for Asia and the Pacific* (2003), 73, pp. 1-25.

⁸⁵ Annual growth is projected at 12-15% for passenger traffic, and 15-18% for cargo traffic. Over \$50-60 billion investment is required over the next 5 years to improve road infrastructure. *India Infrastructure* (2008 August issue).

⁸⁶ See Calderon *et al.*, (2004), 'The Effects of Infrastructure Development on Growth and Income Distribution,' *World Bank Policy Research Working Paper*, No 3400, World Bank, Washington, DC. On linkages between infrastructural and growth variations among Indian states see Majumder, Rajarshi (2008), *Infrastructure and Development in India: Interlinkages and Policy Issues*, Rawat Publications, New Delhi. Also see Kumar *et al.*, (2007), "Sustainability of Economic Growth in India", CIGI Working Paper No. 25. Available at SSRN: <http://ssrn.com/abstract=990082>

government does not have funds required for the purpose.⁸⁷ In order to bridge this gap, the central government has decided to encourage public private partnership. According to the eleventh five-year plan, the private sector's share is expected to be as much as one third of the planned investment of \$ 500 billion for infrastructure.⁸⁸ Since 2003-04, while presenting budgets, the successive finance ministers have been very emphatic about promoting public private partnerships (PPPs).

Public Private Partnerships offer a unique and innovative method of involving the private sector in the nation building activity and in accelerating the delivery of public goods and services of high quality through joint enterprises, without spreading the limited available resources too thin. The Eleventh Five Year Plan has estimated that in order to sustain the envisaged high annual growth rate, the investments in the infrastructure sector will have to be of massive proportions.⁸⁹ It would be impossible for the public sector to meet such huge commitments in view of its limited capability for additional capital mobilization. The anticipated shortfall of at least 30 percent of the estimated total plan requirements,⁹⁰ which itself will be of a huge magnitude will have to be met by seeking active private sector involvement in the development of the infrastructure sector. Public Private Partnership (PPP) will be an attractive option in meeting this challenge.⁹¹

Private sector participation in infrastructure development is not, however, a simple matter. It requires a framework that can enable the private sector to secure a reasonable return at manageable risk, assure the user of adequate service quality at an affordable cost, and facilitate the Government in procuring value for public money. These conditions are more difficult to fulfill than is commonly realized. Because of multiple stakeholders pursuing conflicting interests, risk mitigation arrangements are usually complex. Inadequate preparatory work in

⁸⁷ In fact, investment in infrastructure as a percentage of the GDP has been declining over the years. Between 1991-92 to 2002-03 capital formation in infrastructure came down from 6.34 to 3.5 percent of GDP. See Rakshit, Mihir (2009), 'Issues in Infrastructure Investment: *National Highways Development Programme*' in *Macroeconomics of Post-reform India*, Vol I, Oxford University Press, New Delhi.

⁸⁸ Eleventh Five Year Plan Document.

⁸⁹ Estimated in the 11th Plan document at US \$494 billion at 2006-07 prices and a projected GDP growth rate of 9%

⁹⁰ Investments in Infrastructure during the Eleventh Plan; The Secretariat for the Committee on Infrastructure, Planning Commission (October, 2007).

⁹¹ Public Private Partnerships in Infrastructure Projects – Public Auditing Guidelines, Comptroller & Auditor General of India, 2009

relation to the framework for PPP projects, identification of projects, selection of private participants, preparation of strategic plan and project reports, drafting of contracts and other associated activities will only lead to excessive transaction costs, years of delay in project implementation, inadequate quality, and large contingent liabilities to the Government.⁹² A project beset with such problems even after completion can get enmeshed in a high cost low demand syndrome.

7.2. What are Public-Private Partnerships?

Several definitions and explanations are readily available to clarify Public Private Partnerships (PPPs). The United Nations⁹³ defines public private partnerships as *“innovative methods used by the public sector to contract with the private sector who bring their capital and their ability to deliver projects on time and to budget, while the public sector retains the responsibility to provide these services to the public in a way that benefits the public and delivers economic development and improvement in the quality of life”*.

However, no single, widely accepted definition for the term “public-private partnership” (PPP) exists. However, most descriptions characterize a PPP as an arrangement between a public sector entity and a private sector entity to deliver a public sector asset (normally infrastructure or a public facility) and/or service.⁹⁴ In this way, PPP arrangements offer an alternative to traditional public sector procurement methods used to accomplish a public duty or responsibility.

According to the UN, Public Private Partnerships which aim at financing, designing, implementing and operating public sector facilities and services will have three main characteristics, namely,

- a) Long term (sometimes up to 30 years) service provisions;
- b) The transfer of risks to the private sector; and,

⁹² Montek Singh Ahluwalia, Deputy Chairman, Planning Commission, Foreword to PPP in National Highways, Model Concession Agreement, November, 2005.

⁹³ Guidelines on Promoting Good Governance in Public Private Partnerships (UN-2006) : United Nations Economic Commission for Europe.

⁹⁴ The term “PPP arrangements” does not include arrangements that solely involve a public sector entity holding an ownership interest in another entity, for example, as in a joint venture. These arrangements may be subject to the guidance in International Public Sector Accounting Standards (IPSAS) 7, *Accounting for Investments in Associates* or IPSAS 8, *Interests in Joint Ventures*.

- c) Different forms of long-term contracts drawn up between legal entities and public authorities.

In a paper titled "*Managing Public Private Partnership*"⁹⁵, the World Bank describes PPPs as "*long-term arrangements in which the governments purchases services under a contract either directly or by subsidizing supplies to consumers. In other PPPs, the government bears substantial risks - for example, by guaranteeing revenue or returns, - on projects that sell directly to consumers*". According to the Secretariat for the Committee on Infrastructure, Government of India, a "*Public Private Partnership (PPP) Project means a project based on a contract or concession agreement between a Government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges*".

It is also said that PPP is a contract between a public sector institution / municipality and a private party, in which the private party assumes substantial financial and technical risks in the design, financing, building and operation of a project.⁹⁶

Public Private Partnership (PPP) Project have also been defined as a project based on a contract or concession agreement, between a Government or a statutory entity on the one side and a Private Sector Company on the other-side, for investing in construction and maintenance of infrastructure asset and / or delivering an infrastructure service.⁹⁷

Generally, PPPs combine the best of both worlds: the private sector with its resources, management skills and technology and the public sector with its regulatory actions and protection of the public interest.

The concept of PPPs is of recent origin and started with the initiative of the Conservative Government in the United Kingdom under Prime Minister Margaret Thatcher, who actively

⁹⁵ Marc Dutz, Clive Harris, Inderjit Dhingra and Chris Shugart, 'Managing Public Private Partnerships' World Bank, November, 2006

⁹⁶ South African Finance Act, 1976

⁹⁷ FAQs on PPP in India available at <http://www.pppindiadatabase.com/frmFAQ.aspx#q1> (last accessed April 22, 2010)

promoted what is known as 'Private Finance Initiative' (PFI).⁹⁸ The idea was to make private contractors meet the cost of constructions awarded to them in return for the public authorities agreeing to rent back the finished projects to provide public services. This enabled the government to build additional social facilities such as schools, hospitals, reformatories etc., without resorting to additional resources mobilization while the private sector retained gains and savings arising from designs and project management and also received from the government agency regular rents for the facilities. Though the deal seemed to benefit both sides, there were criticisms that the government was just "mortgaging the future" and there were apprehensions that the long term cost of paying the private sector to run these schemes was more than it would cost the public sector to build them on its own.

Unlike PFIs, PPPs are projects jointly undertaken by governments, public sector bodies and entities with private sector partners to provide infrastructure services of the required / improved quality to the public and consumers at large and involves balanced sharing of the risks and benefits. In PPPs, the private sector invariably brings in the necessary finance to build the projects, undertakes designs and construction as also operation and maintenance, in return for the public sector either transferring its right to collect user charges, levies or tolls or pays compensation in accordance with an agreed pattern by way of viability gap funding, annuity or annual charges, based on certain pre-determined norms and principles. There could be different types of PPPs; but they all will have the following ingredients, which may be kept in view:

- i) government departments or agencies and bodies and entities under them on the one part and selected private sector parties on the other will enter into valid and legal contracts;
- ii) partnership between the two will be to provide long term public services (and/or goods) of required quality;
- iii) the public sector will, while transferring the responsibility to design, construct and/or operate the project to the private sector, retain the overall responsibility to provide the public service;

⁹⁸ Some examples are Thames Crossing, Birmingham Relief Road, several hospitals under National Health Scheme (NHS) etc.

- iv) the private sector will bring in the required finance either fully or substantially to complete the project and to operate it, with the public sector providing right to revenue likely guarantees to financiers or viability gap funding / annuity in appropriate cases;
- v) the public sector will assign the right to collect revenues arising from the project to the private sector for a defined period based on demand projections, or pay grants or annuity and/ or agree to share any surplus, subject to a balanced sharing of the risks and gains;
- vi) value for money will be the basic criterion for the public sector to enter into the arrangement.

7.3. Importance of Public Private Partnership Projects

7.3.1. Important tool to fill the ‘infrastructure deficit’:

Many countries around the world and especially in transition economies face an ‘infrastructure deficit’, as evidenced by congested roads, poorly-maintained transit systems and recreational facilities, deteriorated schools, hospitals, and water and water treatment systems, and other infrastructure assets which are either non-existent or in urgent need of repair. These problems in turn impose huge costs on societies, from lessened productivity and reduced competitiveness, to an increased number of accidents, health problems and lower life expectancy. Many States have come to realize that their tax revenue alone cannot fund the enormous needs for infrastructure. In some States there is an acute need to revitalize existing infrastructure that was built decades ago. Furthermore, there is a critical challenge to find the funding for so called ‘green-field projects’, specifically the huge social projects required from rapidly growing economies and ageing populations. PPPs are one of the best options to solve this problem.

7.3.2. Benefits of Public Private Partnership Projects

- i) **Better value:** The decision by government to pursue PPP delivery is often based on analysis to determine that the PPP approach will deliver value to the public through one or more of the following:
 - (a) Lower cost;
 - (b) Higher levels of service; and

(c) Reduced risk

- ii) **Access to capital:** PPPs allow governments to access alternative private sources of capital, allowing important and urgent projects to proceed when otherwise they may not be possible.
- iii) **A Certainty of outcomes:** Certainty of outcomes are increased both in terms of 'on time' delivery of projects (the private partner is strongly motivated to complete the project as early as possible to control its costs and so that the payment stream can commence) and in terms of 'on-budget' delivery of projects (the payment scheduled is fixed before construction commences, protecting the public from exposure to cost overruns).
- iv) **Off balance sheet borrowing:** Debt financing that is not shown on the face of the balance sheet is called 'off balance sheet financing'. Off balance sheet financing allows a country to borrow without affecting calculations of measures of its indebtedness.⁹⁹
- v) **Innovation:** By combining the unique motivations and skills of both the public and private sectors and through a competitive process for contract award, there is a high potential for innovative approaches to public infrastructure delivery with PPPs.

7.3.3. Public Private Partnership Projects offer new financing models¹⁰⁰

The private sector brings financing to PPPs, which provides specialized financing that is different from both public finance and corporate finance. As noted above, PPPs are often funded through government budgets but may also be partially or completely funded by the users of the service (e.g. toll road). Project finance is for the most part the means by which PPPs are funded.

The objective of using project financing to raise capital is to create a structure that is bankable (of interest to investors) and to limit the stakeholders' risk by diverting risks to parties that can better manage them. Project finance is based on the following characteristics:

- (a) **'Stand-alone' project:** the funding raised is for only one project;

⁹⁹ The Eurostat defined the treatment of Design, Build, Operate and Finance (DBOF) projects as being eligible for off balance sheet borrowing, which was clarified in the February 2005 report 'Standing Committee on the impact of Investment on the General Government Balance (GGB)'. Available at www.ppp.gov.ie/.../ppps-clarification-of-eurostat-rules-for-depts-june-06.doc (last accessed April 24, 2010)

¹⁰⁰ United Nations Economic Commission for Europe, 'Guide Book on Promoting Good Governance in Public-Private Partnerships', United Nations: New York and Geneva, 2008. Available at www.unece.org/ceci/publications/ppp.pdf (last accessed April 24, 2010)

- (b) **Special purpose Project Company as the borrower:** an independent legal vehicle (Project Company) is created to raise the funds required for the project;
- (c) **High ratio of debt to equity** (Gearing or leverage): the newly created project company usually has the minimum equity required to issue debt for a reasonable cost, with equity generally averaging between 10 to 30 per cent of the total capital required for infrastructure projects;
- (d) **Lending based on project specific cash flow not corporate balance sheet:** the project company borrows funds from lenders. The lenders look to the projected future revenue stream generated by the project and the project company's assets to repay all loans; and
- (e) **Financial guarantees:** the government does not provide a financial guarantee to lenders. Developers may provide guarantees often limited to their equity contributions. The private financier receives its payment from the income generated from the project or from the government.

7.4. Constraints of Public Private Partnerships in India

Several constraints can hamper the prospects of PPP formation. These include:

- Lack of an integrated institutional policy framework for project identification, development and implementation.
- Lack of coordination between various Government agencies involved in development and implementation of infrastructure projects.
- Inadequate availability of long term finance – both debt and equity- due to under-developed financial markets.
- Inadequate capacity in public sector to prepare and implement PPP contracts.
- Inadequate capacity in private sector to meet technical and financial requirements of PPPs.

7.5. Initiatives taken by the Government to overcome these Constraints

To overcome the above constraints the government launched several initiatives. Following are the major steps taken to galvanize the PPP programme.¹⁰¹

¹⁰¹ Ram Singh and Anant, 'Distribution of Highways Public Private Partnerships in India: Key Legal and Economic Determinants', Center on Democracy, Development, and The Rule of Law

- *Standardization of Bidding and Concession Documents:* With a view to enabling a smooth transition from public sector projects to PPPs and for adoption of best practices, Government of India has recognized the critical role of standardizing documents and processes to be adopted for structuring and award of Public Private Partnership (PPP) concessions. Standardized documents enable project authorities to save on the time and costs involved in structuring complex PPP projects. In addition, they afford protection to individual entities and officials against making errors and answering for them. Such standard documents typically lay down the norms, principles and parameters to be followed for PPP projects and enable project authorities to adopt them with considerable ease for meeting the specific requirements of individual projects.¹⁰² In order to ensure transparency in the process, the government has introduced model documents. Request for Qualification (RfQ) and Request for Proposal (RfP) documents have been prepared for small as well as large projects. There is two-stage competitive bidding for award of concession contract. At the Request for Qualification stage, short listing of bidders is done on the basis of their technical and financial capabilities. That is, the bidders who have the necessary technical skills and financial resources to implement the project are short-listed. The admissibility or otherwise of a bid is decided on the basis of the previous experience and the financial capabilities of the bidder. Doubtful, frivolous and unsuitable bids are screened at this stage itself. Bidders so selected are issued Request for Proposal documents for financial bidding. The objective of this stage is to select the best among the qualified bidders. An attempt is made to select the bidder who offers the best value for money to the public sector. Selection is made on the basis of the technical as well as the financial soundness of the proposals. The bidder satisfying maximum of all the parameters of the technical and financial proposal is awarded the contract.

In addition, the introduction of the Model Concession Agreement (MCA) documents has gone a long way in streamlining and clarifying the PPP policy. MCAs have been prepared for BOT Toll, BOT Annuity and BOT operation and maintenance (O&M)

Freeman Spogli Institute for International Studies. Available at http://iis-db.stanford.edu/pubs/22651/No_100_AnantSingh_Highways_Public_Private_India.pdf (last accessed April 27, 2010)

¹⁰² Model Request for Proposal for Appointment of Legal Consultant, Planning Commission, Government of India available at http://infrastructure.gov.in/pdf/RFP_LegalPage.pdf (last accessed April 27, 2010)

contracts. MCAs along with RfQ and RfP documents have provided an integrated institutional policy framework for project identification, development and implementation. Since January 1, 2007, all contracts are awarded on the basis of MCA.¹⁰³

- *India Infrastructure Finance Company Limited (IIFCL)*: In the Indian financial market, debts are generally available for duration of 7 to 8 years whereas infrastructure projects require much longer pay back period. This is partly due to the fact that pension and long-term debt markets are underdeveloped. Inadequate availability of long term finance, both debt and equity, is a serious problem facing investors. To mitigate this problem the government set up IIFCL in January 2006.¹⁰⁴ IIFCL is allowed to refinance infrastructure loans by banks and FIs as well as lend directly, subject to a limit of 20 percent of the project cost. PPPs have overriding priority under IIFCL funding schemes. However, it lends only to commercially viable projects.
- *Provision of Viability Gap Funding (VGF)*: Because not all projects are commercially viable, the government has made provisions for VGF to give capital grants for BOT projects on national highway. The object is to craft even commercially unviable projects attractive for private investment by reducing their capital costs. VGF enables leveraging of private investments in the highway sector and can be up to 40 percent of the project costs. The institutional structure to govern the scheme was introduced in August 2005.¹⁰⁵ Though the provision of VGF was made in 2005, the detailed guidelines for the financial

¹⁰³ Available at http://infrastructure.gov.in/pdf/Final_FAQ.pdf (last accessed April 27, 2010)

¹⁰⁴ The Hon'ble Finance Minister of India, while presenting the Union Budget for 2005-2006 acknowledged the need and significance of building adequate infrastructure in the country when he made the following announcement: "*The importance of infrastructure for rapid development cannot be overstated. The most glaring deficit in India is the infrastructure deficit. Investment in infrastructure will continue to be funded through the Budget. However, there are many infrastructure projects that are financially viable but, in the current situation, face difficulties in raising resources. I propose that such projects may be funded through a financial Special Purpose Vehicle The SPV will lend funds, especially debt of longer-term maturity, directly to the eligible projects to supplement other loans from banks and financial institutions. Government will communicate the borrowing limit to the SPV at the beginning of each fiscal year*". Available at <http://www.iifcl.org/profile.html> (last accessed April 27, 2010)

¹⁰⁵ Notification F.No. 2/10/2004-INF dated August 18, 2005 of Ministry of Finance.

support under this scheme were published in 2006.¹⁰⁶ Financial support under the scheme is available for PPP projects which are meant to provide service against tariff or user charges. Also, contracts for these projects are awarded through competitive bidding.

- *India Infrastructure Project Development Fund (IIPDF)*: A foremost rationale behind uninspiring performance of PPPs is said to be non-availability of credible and bankable projects. Detailed Project Reports (DPRs) and Project Feasibility Reports (PFRs) are of poor quality and cannot be relied upon. This is because the public sector in India has little capacity to prepare quality project reports. It also lacks abilities to implement PPP contracts. At the same time, the bidders cannot be expected to prepare their own reports as the cost of transaction advisors for PPP projects is huge. Therefore, the government has decided to develop capacity in the public sector as to line up credible and bankable projects that can be offered through competitive bidding. IIPDF has been set up with an initial contribution of Rs 100 crore.¹⁰⁷ It is meant to help meet project development costs of public sponsoring agencies of infrastructure projects, both at central as well as state levels. It can assist to meet up to 75 percent of the project development costs. The costs are recovered from the successful bidder.
- *Public Private Partnership Appraisal Committee (PPPAC)*:¹⁰⁸ This high powered committee has been set up with an objective to reduce transaction costs, enhance coordination among ministries involved and ensure fast track approval of PPP projects.¹⁰⁹ It appraises high cost Central government projects. For low cost projects, it has issued guidelines that are the main reference point..

¹⁰⁶ The guidelines were notified by Ministry of Finance vide O.M. No 1/5/2005-PPP dated January 12, 2006, and later were published by Planning Commission.

¹⁰⁷ The fund was set up following an announcement by the Finance Minister in the Budget Speech for 2007-08.

¹⁰⁸ Notification dated April 2, 2007 available at <http://www.pppinindia.com/pdf/Approval.pdf> (last accessed April 26, 2010)

¹⁰⁹ Secretary (Economic Affairs) is the chairman of the committee, and Secretary (Planning Commission), Secretary (Expenditure), Secretary (Legal Affairs), and Secretary of the sponsoring department, are the members.

In addition, over the years, the government has offered several fiscal and other incentives to attract investors to road projects. The following are the additional features of the new PPP policy:¹¹⁰

- Declaration of road sector as an industry, to facilitate borrowing on easy terms and to permit floating of bonds.
- Longer concession periods (up to 30 years).
- Easier external commercial borrowing norms.
- FDI including foreign equity participation up to 100 percent in the highways is allowed for BOT projects. Foreign investors are generally allowed to repatriate 100 percent profits.

Provision of encumbrance free site for work, i.e. government bears expenses for land and pre-construction activities.

7.6. Conclusion

Traditionally, infrastructure projects in India were owned and managed by the government or governmental undertaking. Given the huge investments required in infrastructure, which now plays a important role in the economic development, there is now a broad consensus that private sector participation in this activity must be encouraged.

¹¹⁰ Government of India (2007), "Public Private Partnerships: Creating an enabling environment for state projects," Government of India, Ministry of Finance, Department of Economic Affairs.

CHAPTER – 8

MODEL CONCESSION AGREEMENTS

8.1. Background

The Planning Commission has published several Model Concession Agreements (MCAs) with the objective of specifying an appropriate balance of risks and obligations and also for establishing a faster rollout of PPP projects in a fair and transparent manner. The framework that has been evolved in the MCAs is comprehensive and conforms to internationally accepted principles and best practices. In sectors that do not have duly approved MCAs, the project-specific concession agreements should adopt similar provisions. Some of the provisions in the Model Concession Agreement, which help improve project monitoring and dissemination of information, are illustrated.¹¹¹

8.2. Essentials of Concession Contracts¹¹²

- *Parties:* The direct contract concession is between the NHAI on behalf of the Government of India, and the Concessionaire. However, there are three parties to a contract: NHAI, Concessionaire and the State Government(s) of the state(s) in which the road facility is to be developed.¹¹³
- *Duration:* Duration of the concession generally is 20 years but it can extend up to 30 years. The duration includes the construction period (assumed to be two years in most cases). The contract specifies the responsibilities/obligations of the parties. The main responsibilities of the government (Authority) are to acquire land for the project and get forest and other environment related clearances for the concessionaire (See Clause 6 of the MCA). The concessionaire has the obligation to meet all the project related deadlines, satisfy all design and material related standards, and cooperate with the independent engineers who monitor the project, etc (See Clauses 5, 13 17 of the MCA).
- *Risk Allocation:* Contractual clauses provide for detailed risk allocation during all stages of the project. Clauses 2.1, 9.4, 13.2, 13.5, 15.4, 18.8, and 18.11 of the MCA deal with the details of risk allocation during the construction phase. Details of the allocation of

¹¹¹ Guidelines Monitoring PPP Projects in India, Government of India available at http://infrastructure.gov.in/pdf/Guidelines_Monitoring.pdf (last accessed April 27, 201)

¹¹² The MCA clauses being referred herein are contained in the MCA on PPP in National Highways available at <http://infrastructure.gov.in/pdf/OverviewMCA.pdf> (last accessed on April 27, 2010)

¹¹³ The state government's role is limited to signing and abiding with the state support agreement.

financial and commercial risks are provided in Clauses 6 and 24 of the MCA. Moreover, the MCA contract clearly spells out the responsibilities as well as the entitlements/rights of the parties involved – NHAI and the Concessionaire (Clauses 5, 6, 13, 17, 37 and 43 of the MCA).

- *The Damage Measures:* The contract provides for different damage measures for different violations of the contractual clauses. It employs what can be called ‘*expectation damages*’, ‘*reliance damages*’ and ‘*liquidation damages*’. For example, expectation damages are to be used if the central or the state government develops an additional toll way or a competing road that adversely affects the interests of the concessionaire. In that event the government is required to pay to the concessionaire, in compensation, a sum equal to the difference between the realizable fee and the projected fee (Clauses 29 and 30 of the MCA). The compensation is to be made for the entire period of breach, that is, until the breach is cured. Reliance damages are used in case of material loss sustained by either concessionaire or the government. The party who is in the breach of contract pays all the direct costs borne by the other party. For certain other violations the contract explicitly provides for penalties which are very similar to the liquidation damages in nature.¹⁹ For example, when the government doesn’t provide the agreed land to the concessionaire within a pre-specified time, the concessionaire receives a pre-agreed fixed sum on a daily basis. (Clause 12).
- *Regulator:* It is important to note that a PPP contracts are long-term and complex. This means that contractual disputes are possible. There can be unforeseen circumstances in which the concessionaire and the government may make conflicting claims regarding their entitlements and obligations. Therefore, there is a need for an independent regulator to verify the claims made by the parties. To this end, the MCA provides for an ‘independent’ engineer to monitor the progress of the project. Also, in case the government asks for a change in the scope of the contract, the financial implications of the required change have to be verified by the independent inspector (Clauses 12, 19 and 26). The appointment of the independent engineers is made by the NHAI for a period of three years. The remuneration, cost and expenses of the independent engineer are shared by both the parties. Moreover, all contractual disputes are governed by the Arbitration

and Conciliation Act, 1996. The Act is based on the provisions of UNCITRAL Model Law for international commercial arbitration.¹¹⁴

8.3. Attributes of Efficient PPP Project Contracts

The organization of incentives and sanctions created by the contractual (MCA) clauses has a number of desirable and efficiency enhancing attributes.¹¹⁵ The following features are noteworthy:¹¹⁶

- i. *Reduced Adverse Selection and Moral Hazard*: Provisions for suspension and termination of the contract encourage the concessionaires to choose a project carefully as well as to avoid ensuing breach. The requirements of concession fee and performance security help in screening of fraudulent bidders. Moreover, there are provisions of fines and penalties which can be invoked by the either party if the other party reneges on its commitment under the contract. These provisions avoid moral hazard during the implementation phase.
- ii. *Avoiding Delays*: The time period of construction (generally assumed to be two years) is included in the concession period itself. An earlier completion of project enables the concessionaire to increase the total toll revenue from the project. In case of annuity contract, the concessionaire receives a bonus for an earlier completion. If there is any delay in the completion of the project, he is penalized in the form of reduced annuity payments. These along with the other above mentioned provisions penalties encourage the concessionaire to complete the project sooner and avoid time overrun.
- iii. *Technology*: The above provisions also induce the concessionaire to use better technology in order to complete the project ahead of the agreed time. In addition, technological capabilities of the bidders are taken into account while selecting the concessionaire.

¹¹⁴ The UNCITRAL Model Law on International Arbitration is available at http://www.uncitral.org/pdf/english/texts/arbitration/ml-arb/06-54671_Ebook.pdf (last accessed April 27, 2010)

¹¹⁵ For studies on efficient management of Road PPPs see Brown, Christine Brown, Christine (2005) "Financing Transport Infrastructure: For Whom the Road Tolls", the *Australian Economic Review*, vol. 38, no. 4, pp. 431–8.

¹¹⁶ Ram Singh and TCA Anant, 'Distribution of PPPs in India: Key Legal and Economic Determinants', Center on Democracy, Development, and The Rule of Law Freeman Spogli Institute for International Studies , No.10, September 2009, CDDRL Working Papers: Stanford available at <http://cddrl.stanford.edu> (last accessed April 27, 2010)

- iv. *Flexibility*: The contract has provisions like cure period for delay in meeting deadlines. The contract also allows changes in the scope of the contract under certain circumstances. Besides, contract modification is also allowed in the events of any change in the relevant law or *force majeure*. These provisions help in increasing the flexibility of the contract.
- v. *Better Demand management*: Concessionaire has the sole and exclusive right to demand, collect and appropriate toll from users. Though toll rates are fixed by NHAI, annual revision of toll takes place. The concessionaire is fully compensated for inflation, which is measured by the WPI. The contract also allows the concessionaire at its discretion to levy, determine and collect a higher and discounted fee for the use of the facility during peak and off-peak hours, respectively.¹¹⁷
- vi. *Efficient Risk Sharing*: Contract allocates risks to a party that is in a better position to bear it. For example, the government is in a better position to bear the risk associated with land acquisition and regulatory clearances. These risks are assigned to the government. In contrast, the risks such as those related to construction and maintenance and financial risks are assigned to the concessionaire, who can bear these risks more efficiently.
- vii. In addition, the contract allows for regular monitoring by the government of the progress on the project. In order to enable the government to monitor the progress in terms of material standards and meeting of deadlines, the contract provides for the following:
 - Submission of monthly progress report by an independent engineer.
 - The concessionaire has to submit a concession fee which is on the basis of an ascending revenue–share.
 - Concessionaire is also required to pay performance security which is seized by the Authority in case of default.

In all the Model Concession Agreements, the role of contract supervision is discharged by the Independent Engineer. Its functions include review, inspection and monitoring of construction works, examining the designs and drawings for their conformity with the concession agreement and conducting tests and issuing completion certificates during the construction period. During the operations period, the Independent Engineer is expected to monitor compliance with the

¹¹⁷ This option can be exercised from the 5th year on and after obtaining prior and written approval of the authority.

performance and maintenance standards. The Independent Engineer is expected to identify delays and lapses that require action on part of the government for enforcing the terms of the agreement. The role of Independent Engineer is mainly restricted to technical matters. Issues relating to legal, financial, real estate, revenue and other incidental matters do not typically fall in the domain of the Independent Engineer. It would, therefore, be necessary for Project Authorities to monitor these aspects. Infrastructure projects also provide public goods and services. As such, the project documents have a direct bearing on public and user interests. The MCAs, therefore, require all the project documents to be placed in public domain. In addition to the above, the Project Authorities should also disseminate information relating to compliance with agreed performance standards so that the users are aware of the compliance of agreed standards for which they are paying user charges.

CHAPTER – 9

INDIA INFRASTRUCTURE FINANCE COMPANY LIMITED (IIFCL)

9.1. Background

The importance of infrastructure for sustained economic development and improving the living standards of the population is well recognized. Yet, millions of people, across the world lack access to roads, transport, electricity, safe drinking water, proper sanitation and communication facilities. Inadequate and inefficient infrastructure not only adds to transaction costs but also prevents the economies from realizing their full growth potential. With Indian economy moving on to a high growth trajectory facilitated by a consistent and steady growth of 8 - 9% in the recent years, there is a critical need to accelerate investments in the infrastructure sector. In fact, infrastructure has emerged as a key driver for sustaining the robust growth of the economy and the government has been focusing on development of infrastructure. Although there has been progress in attracting private investments into infrastructure, Gross Capital Formation (GCF) in infrastructure has hovered around 5 percent of Gross Domestic Product (GDP). The 11th Five Year Plan (2007-2012) has envisaged raising the level of GCF in infrastructure to 9 percent of GDP by 2012, thereby matching the levels obtaining in some of the Asian economies.¹¹⁸

The Government of India recognized that there is a significant deficit in the availability of physical infrastructure across different sectors and that this is hindering economic development and that the development of infrastructure requires debt of longer maturity to supplement the debt funds presently available.

Such debt funds are usually not available because of the following constraints:

- [a]. Absence of benchmark rates for raising long term debt from the market;
- [b]. Asset-liability mismatch of the tenor of debt in case of most financial institutions; and
- [c]. High cost of long term debt

¹¹⁸ Projections of Investment in Infrastructure under the 11th Five Year Plan, Secretariat for the Committee on Infrastructure, Planning Commission, Government of India available at <http://infrastructure.gov.in/pdf/IBEF.pdf> (last accessed April 27, 2010)

The Hon'ble Finance Minister of India, while presenting the Union Budget for 2005-2006 acknowledged the need and significance of building adequate infrastructure in the country when he made the following announcement: *"The importance of infrastructure for rapid development cannot be overstated. The most glaring deficit in India is the infrastructure deficit. Investment in infrastructure will continue to be funded through the Budget. However, there are many infrastructure projects that are financially viable but, in the current situation, face difficulties in raising resources. I propose that such projects may be funded through a financial Special Purpose Vehicle The SPV will lend funds, especially debt of longer-term maturity, directly to the eligible projects to supplement other loans from banks and financial institutions. Government will communicate the borrowing limit to the SPV at the beginning of each fiscal year"*.

Government of India, accordingly approved a Scheme for Financing Viable Infrastructure Projects through a Special Purpose Vehicle called the India Infrastructure Finance Company Ltd, broadly referred to as **SIFTI**. Accordingly, India Infrastructure Finance Company Limited (IIFCL) was incorporated on January 5, 2006 under the Companies Act 1956 as a wholly Government owned Company. IIFCL is a dedicated institution purported to assume an apex role for financing and development of infrastructure projects in the country. The authorized capital of the Company is Rs. 2,000 crore of which, paid up capital, at present, is Rs. 1,000 crore. Besides, the resource-raising programme of the Company would have sovereign support, wherever required.

India Infrastructure Finance Company Ltd (IIFCL) provides long term financial assistance to various viable infrastructure projects in the country in terms of the SIFTI. The Company renders financial assistance through:

- Direct lending to eligible projects
- Refinance to banks and FIs for loans with tenor of five years or more
- Any other method approved by Government of India

The authorized capital of the company is Rs.20 billion and the Paid-Up capital is currently Rs.10 billion. Apart from equity, IIFCL raises long term debt from the domestic market, debt from bilateral and multilateral institutions and in foreign currency through external commercial borrowings. The borrowings of the company are backed by sovereign guarantee.

9.2. Significant Features of the Scheme

As per Consultation Paper on the Projections of Investment in Infrastructure during the 11th Plan (2007-2012), the total investment required for the infrastructure sector (at 2006-07 prices) will be of the order of over Rs. 20,18,700 crore (USD 492 billion). The sectoral disaggregates show that 30.5% of the projected investments will be in power sector, 15.4% in roads and bridges, 13.2% in telecommunications, 12.6% in railways, 3.7% in ports, 1.7% in airports and the remaining in sectors like irrigation, gas, storage, water, sanitation etc.

The Consultation Paper has estimated that the investment requirements during the ten year period 2007-2017 covering the 11th and 12th Five Year Plans would be of the order of USD 1.48 trillion. Private investment is expected to constitute more than 65 per cent of total investment in telecom, ports and airport sectors during the Eleventh Plan. For the power sector, it would rise to 26 per cent and for the road sector to 36 per cent. The shares of public and private investment in total infrastructure investment during the Eleventh Plan are projected to be about 70 per cent and 30 per cent respectively; in contrast with 83 per cent and 17 per cent respectively, during the Tenth Plan

In view of the huge necessity of funds for the sector, the IIFCL is adopting a focused approach, by addressing the project from following sectors:

- Roads & bridges, railways, seaports, airports, inland waterways, other transportation projects;
- Power;
- Urban transport, water supply, sewerage, solid waste management and other physical infrastructure in urban areas;
- Gas pipelines
- Infrastructure projects in special economic zones
- International convention centers, other tourism related infrastructure;
- Other infrastructure projects, as may be determined from time to time.

9.2.1. Eligibility

IIFCL shall finance only commercially viable infrastructure projects. In order to be eligible for funding by IIFCL, the following will be the eligibility criteria:¹¹⁹

- A. The project shall be implemented by
 - (a) A Public Sector Company ;
 - (b) A Private Sector Company selected under a Public-Private Partnership (PPP) initiative ;
 - (c) A private sector company..
- B. The project should be from one of the following sectors:¹²⁰
 - Roads and bridges, railways, seaports, airports, inland waterways, other transportation projects;
 - Power;
 - Urban transport, water supply, sewage, solid waste management and other physical infrastructure in urban areas;
 - Gas pipelines
 - Infrastructure projects in Special Economic Zones (SEZs) and
 - International Convention Centres and other tourism infrastructure projects.
- C. Projects which are set up on “non-recourse” basis would only be eligible for financing by IIFCL.
- D. Disbursement of loans by IIFCL is subject to the appraisal being done by reputed appraising institutions and the lead bank accepting and adopting the same. IIFCL shall disburse the loan only after getting the sanction from the Lead Bank.
- E. IIFCL would not normally carry out any independent appraisal of the project.
- F. Lead Bank shall be responsible for regular monitoring and periodic evaluation of compliance of the project with the agreed milestones.

9.2.2. Lending Terms

IIFCL may fund viable infrastructure projects through the following modes:

¹¹⁹ Available at <http://www.iifcl.org/profile.html> (last accessed April 27, 2010)

¹²⁰ Paragraph 5.2(c) of the Scheme.

- Long term debt;
- Refinance to banks and financial institutions for loans with tenor of more than 10 years, granted by them.
- Any other mode approved by Government of India

Total lending to any project by IIFCL shall not exceed 20% of the total project cost subject to exposure of IIFCL being less than that of the lead bank.

9.2.3. Lending to PPP projects

A project awarded to private sector Company through PPP shall be accorded priority for lending by IIFCL. A PPP project has been defined under the Scheme as a project based on a contract or concession agreement between a government or a statutory entity on the one side and a private sector company on the other side, delivering an infrastructure service on payment of user charges.

In case of PPP projects, the private sector company shall be selected through a transparent and open competitive bidding process. PPP projects based on standardized/model documents duly approved by the respective government would be preferred.

9.3. Performance of IIFCL

Within a short span of its commencement, the company has extensively expanded its activities and has sanctioned financial assistance of Rs 187.60 billion to 107 projects involving a total project cost of Rs1492.03 billion. Of the 107 projects which have been sanctioned, 88 projects have achieved financial closure and documents have been executed. The 107 assisted projects are spread across 19 states of the country 77 cases, disbursements have been made to the tune of Rs 48.81 billion involving a project cost of Rs 1076.57 billion.¹²¹

¹²¹ Available at <http://www.iifcl.org/profile.html> (last accessed April 27, 2010)

CHAPTER – 10

PUBLIC-PRIVATE PARTNERSHIP (PPP) MODELS

10.1. PPP Models

Broadly, PPPs could be categorized into *Institutionalized PPPs* and *Contractual PPPs*. Institutional PPPs are usually a joint venture (JV) between public and private sector stakeholders to carry out PPP projects by sharing the risks and to provide public services on a long term basis. The Noida Toll Bridge Company (NTBC) and the Bangalore International Airport Limited (BIAL) are examples of this kind. On the other hand, contractual PPPs fall under the concession model, in which case a facility is given by the public sector unit concerned to a private sector partner which usually designs, constructs and operates the PPP project for a given period of time. In some cases, the operation of a facility may be contracted out to another private party.

Under both the categories the users pay for the facility availed and such charges accrue to the JV or the private sector partner. Just as the use of PPP arrangements has grown and become more diverse over recent years, so have their types. The PPP models vary from short-term simple management contracts (with or without investment requirements) to long-term and very complex BOT form, to divestiture. These models vary mainly by:

1. Ownership of capital assets
2. Responsibility for investment
3. Assumption of risks, and
4. Duration of contract.

10.2. Categories of PPP Models

The PPP models can be classified into four broad categories in order of generally (but not always) increased involvement and assumption of risks by the private sector. The five broad categorizations of participation are¹²²:

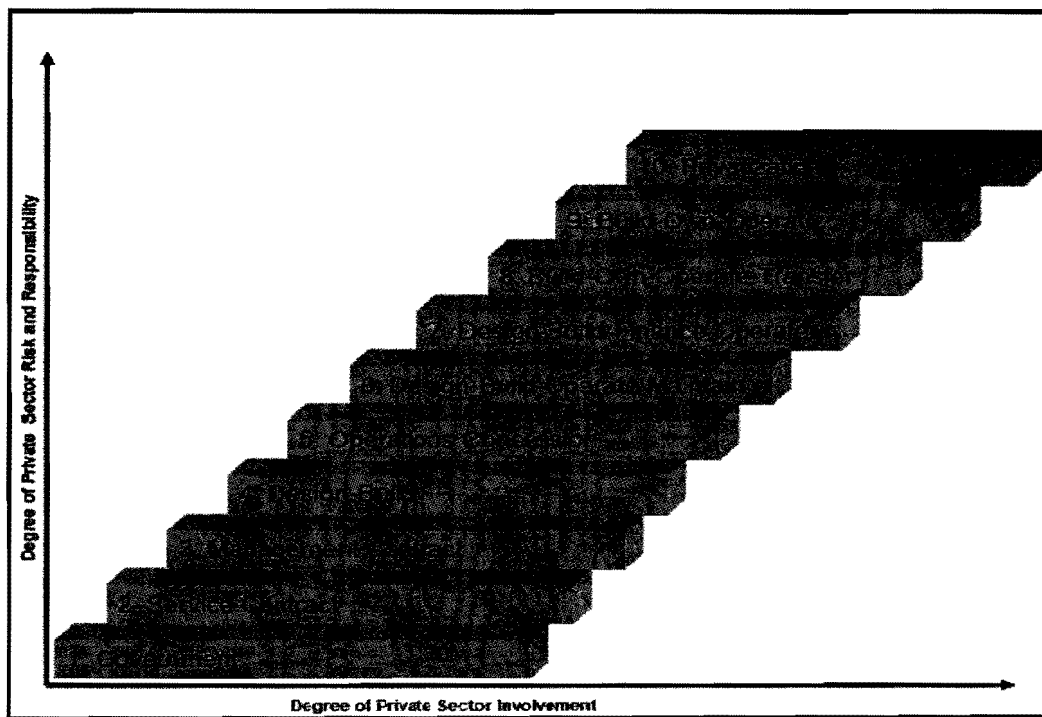
- Supply and management contracts
- Turnkey projects
- Lease

¹²² Public Private Partnership Models, Government of Assam, available at <http://assamppp.gov.in/pppmodels.pdf> (last accessed April 23, 2010).

- Concessions
- Private ownership of assets.

The types of PPP arrangements are often distinguished by the extent of private sector involvement in the major phases of the project. As private sector involvement increases, so generally does its assumption of project risk and responsibility. This is depicted in Chart A below, which plots the various types of PPP arrangements by the degree of risk and responsibility allocated to the private sector entity.¹²³

Chart A: Degree and Involvement of Private Sector in service Concession Agreements¹²⁴



¹²³ Chart A and the descriptions of the types of PPP arrangements that follow it present a generalized view of the types of PPP arrangements that are commonly. However in practice, the nature of an individual PPP arrangement or an associated project may differ from the concepts expressed in this chart and the descriptions, particularly as the utilization of PPP arrangements continues to evolve.

¹²⁴ The Government of India, Ministry of Finance, Department of Expenditure vide OM No.24(24)/PF-II/2009 dated 21st July 2009 have laid down a clear set of Guidelines for establishment of Joint Venture Companies in infrastructure sector. Under these guidelines, issues of conflict of interest, accountability of public sector entity, extent of government shareholding, selection of JV partner, chairmanship of JV, evaluation of assets, appraisal and approval process, exit and termination of the JV have been covered.

Source: International Public Sector Accounting Standard Board, Consultation Paper: Accounting and Financial Reporting for Service Concession Arrangements, March 2008

10.2.1. Management Contracts

A management contract is a contractual arrangement for the management of a part or whole of a public enterprise by the private sector. Management contracts allow private sector skills to be brought into service design and delivery, operational control, labour management and equipment procurement. However, the public sector retains the ownership of facility and equipment. The private sector is provided specified responsibilities concerning a service and is generally not asked to assume commercial risk. The private contractor is paid a fee to manage and operate services. Normally, payment of such fees is performance-based. Usually, the contract period is short, typically two to five years. But longer period may be used for large and complex operational facilities such as a port or airport. A management contract builds on a service contract by placing management responsibilities for the service with the private sector entity. Using the previous example, in contrast to a service contract, a management contract would make the private sector entity responsible not only for actual waste collection, but also for management functions associated with the operation of the service, such as hiring employees, interacting with other vendors, and preparing budgetary information related to the operation of the service. In both cases, the relationship between the public sector entity and the private sector entity is similar to that of a purchaser and vendor, and the arrangements are generally short-term, renewable only on certain conditions. Risk and responsibility for delivery of the service largely remains with the public sector entity. These arrangements can be similar to those referred to as “outsourcing” or “contracting-out.” These arrangements may or may not involve the use of infrastructure or public amenities.

There are several variants under the management contract including:

- Supply or service contract
- Maintenance management
- Operational management

Supply or service contract : In a service contract, the public sector entity contracts out to the

private sector entity services it would otherwise have performed. For example, a public sector entity may enter into a service contract with a private sector entity for the performance of waste collection services. These services generally are performed by the private sector entity in accordance with requirements set by the public sector entity. Supply of equipment, raw materials, energy and power, and labour are typical examples of supply or service contract. A private concessionaire can itself enter into a number of supply or service contracts with other entities/ providers for the supply of equipment, materials, power and energy, and labour. Non-core activities of an organization (public or private) such as catering, cleaning, medical, luggage handling, security, and transport services for staff can be undertaken by private sector service providers. Such an arrangement is also known as outsourcing. Some form of licensing or operating agreement is used if the private sector is to provide services directly to users of the infrastructure facility. Examples of such an arrangement include, catering services for passengers on railway systems (the Indian Railways, for example). The main purpose of such licensing is to ensure the supply of the relevant service at the desired level of quantity and quality.

Maintenance management: Assets maintenance contracts are very popular with transport operators. Sometimes equipment vendors/suppliers can also be engaged for the maintenance of assets procured from them.

Operational management: Management contracts of major transport facilities such as a port or airport may be useful when local manpower or expertise in running the facility is limited or when inaugurating a new operation. Management contracts are also quite common in the transport sector for providing some of the non-transport elements of transport operations such as the ticketing system of public transport and reservation systems. Operational management of urban transport services can also be contracted out to the private sector. In the simplest type of contract, the private operator is paid a fixed fee for performing managerial tasks. More complex contracts may offer greater incentives for efficiency improvement by defining performance targets and the fee is based in part on their fulfillment.

10.2.2. Turnkey/ Design-Build

Turnkey is a traditional public sector procurement model for infrastructure facilities. Generally, a private contractor is selected through a bidding process. The private contractor designs and builds a facility for a fixed fee, rate or total cost, which is one of the key criteria in selecting the winning bid. The contractor assumes risks involved in the design and construction phases. The scale of investment by the private sector is generally low and for a short-term. Typically, in this type of arrangement there is no strong incentive for early completion of a project. This type of private sector participation is also known as **Design-Build**. In design-build¹²⁵ arrangements, the private sector entity is responsible for designing and building the infrastructure or public facility in accordance with the public sector entity's requirements. In these arrangements, the private sector entity usually assumes the construction risk. After construction is completed, the public sector entity is responsible for operating and maintaining the infrastructure, leaving the private sector entity with little or no further project risk.

10.2.3. Affermage/Lease

In this category of arrangement an operator (the leaseholder) is responsible for operating and maintaining the infrastructure facility and services, but generally the operator is not required to make any large investment. However, often this model is applied in combination with other models such as build-rehabilitate-operate-transfer. In such a case, the contract period is generally much longer and the private sector is required to make a significant level of investment.

The arrangements in an affermage and a lease are very similar. The difference between them is technical. Under a lease, the operator retains revenue collected from customers/users of the facility and makes a specified lease fee payment to the contracting authority. Under an affermage, the operator and the contracting authority share revenue from customers/users. Following Figure shows the typical structure of an affermage/lease contract. In the affermage/lease types of arrangements, the operator takes lease of both infrastructure and equipment from the government for an agreed period of time. Generally, the government maintains the responsibility for investment and thus bears investment risks. The operational risks

¹²⁵ In the context of this chapter, the term "build" refers to new construction of infrastructure and public facilities or renovation of existing infrastructure and public facilities.

are transferred to the operator. However, as part of lease, some assets may be transferred on a permanent basis for a period which extends over the economic life of assets. Fixed facilities and land are leased out for a longer period than for mobile assets. Land to be developed by the leaseholder is usually transferred for a period of 15-30 years.

It may be noted here that if the assets transferred to the private sector under a lease agreement are constrained in their use to a specific function or service, the value of assets is dependent upon the revenue potential of that function or service. If assets are transferred to the private sector without restrictions of use, the asset value is associated with the optimum use of the assets and the revenues that they can generate.

10.2.4. Operations Concession Arrangements

In an operations concession arrangement, the public sector entity conveys to the private sector entity the right to provide services directly or indirectly to the public through the use of an existing infrastructure asset or public facility. The private sector entity in turn assumes an obligation to provide such services, normally in accordance with the public sector entity's performance requirements. This form of arrangement, which allocates certain economic risks and benefits of delivering services to a private sector entity, is commonly used with existing infrastructure or public facilities that do not require significant construction. In many of these arrangements, the public sector entity will receive an upfront inflow of resources (or a series of such inflows) from the private sector entity in exchange for the right to access the existing infrastructure or public facility and collect fees from third parties for its use. In other arrangements, the public sector entity will make payments to the private sector entity, generally as performance criteria are met. In contrast with service or management contracts, operations concession arrangements are generally longer in term, often to allow the private sector entity an opportunity to earn an acceptable rate of return on its investment.

In this form of PPP, the Government defines and grants specific rights to an entity (usually 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. In concessions, payments can take place both ways: concessionaire pays to government for the concession rights

and the government may also pay the concessionaire, which it provides under the agreement to meet certain specific conditions. Usually such payments by government may be necessary to make projects commercially viable and/or reduce the level of commercial risk taken by the private sector, particularly in the initial years of a PPP programme in a country when the private sector may not have enough confidence in undertaking such a commercial venture. Typical concession periods range between 5 to 50 years. It may be noted that in a concession model of PPP, an SPV may not always be necessary. Concessions may be awarded to a concessionaire under two types of contractual arrangements:

- Franchise
- BOT type of contracts

Franchise: Under a franchise arrangement the concessionaire provide services that are fully specified by the franchising authority. The private sector carries commercial risks and may be required to make investments. This form of private sector participation is historically popular in providing urban bus or rail services. Franchise can be used for routes or groups of routes over a contiguous area.

Build-Operate-Transfer : In a Build-Operate-Transfer or BOT (and its other variants namely Build-Transfer-Operate (BTO), Build-Rehabilitate-Operate-Transfer (BROT), Build-Lease-Transfer (BLT)) type of arrangement, the concessionaire undertakes investments and operates the facility for a fixed period of time after which the ownership reverts back to the public sector. In this type of arrangement, operating and investment risks can be substantially transferred to the concessionaire. However, in a BOT type of model the government has explicit and implicit contingent liabilities that may arise due to loan guarantees provided and default of a sub-sovereign government and public or private entity on non-guaranteed loans. By retaining ultimate ownership, the government controls policy and can allocate risks to those parties best suited to bear them or remove them. In a BOT concession, often the concessionaire may be required to establish a special purpose vehicle (SPV) for implementing and operating the project. The SPV may be formed as a joint venture company with equity participation from multiple private sector parties and the public sector. In addition to equity participation, the government may also provide capital grants or other financial incentives to a BOT project. BOT is a common

form of PPP in all sectors in Asian countries. A large number of BOT port and road projects have been implemented in the region. Under the Build-Rehabilitate-Operate-Transfer arrangement, a private developer builds an add-on to an existing facility or completes a partially built facility and rehabilitates existing assets, then operates and maintains the facility at its own risk for the contract period. BROT is a popular form of PPP in the water sector. A key distinction between a franchise and BOT type of concession is that, in a franchise the authority is in the lead in specifying the level of service and is prepared to make payments for doing so, whilst in the BOT type the authority imposes a few basic requirements and may have no direct financial responsibility.

10.2.5. Private ownership of assets

In this form of participation, the private sector remains responsible for design, construction and operation of an infrastructure facility and in some cases the public sector may relinquish the right of ownership of assets to the private sector. It is argued that by aggregating design, construction and operation of infrastructure services into one contract, important benefits could be achieved through creation of synergies. As the same entity builds and operates the services, and is only paid for the successful supply of services at a pre-defined standard, it has no incentive to reduce the quality or quantity of services. Compared with the traditional public sector procurement model, where design, construction and operation aspects are usually separated, this form of contractual agreement reduces the risks of cost overruns during the design and construction phases or of choosing an inefficient technology, since the operator's future earnings depend on controlling costs. The public sector's main advantages lie in the relief from bearing the costs of design and construction, the transfer of certain risks to the private sector and the promise of better project design, construction and operation.

There can be three main types under this form:

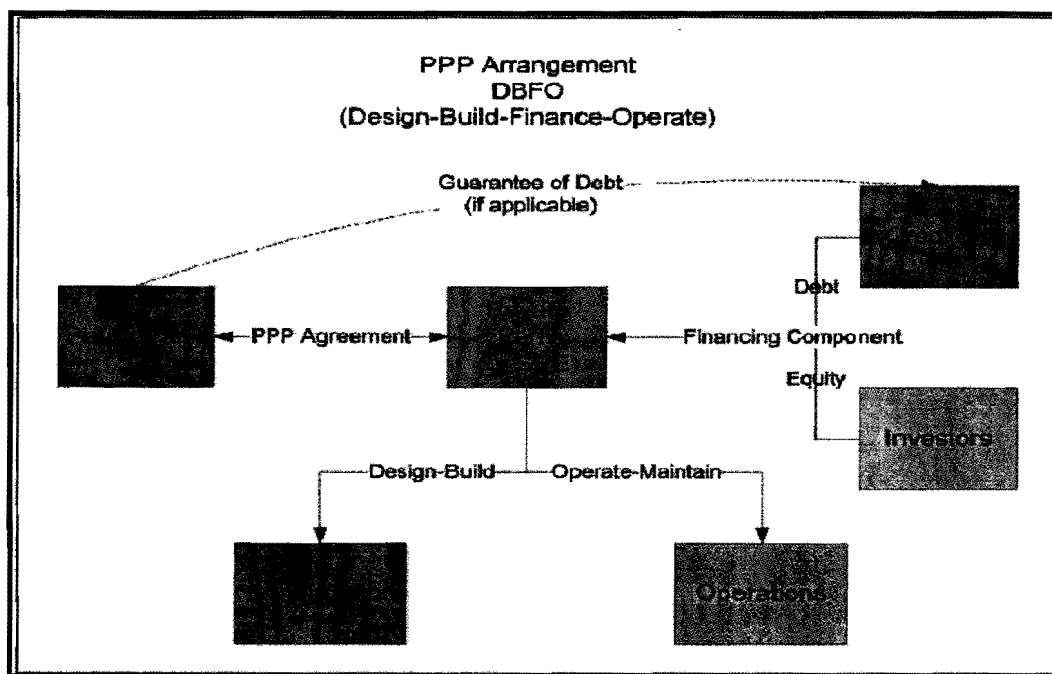
- Build-Own-Operate type of arrangement
- Private Finance Initiative (a more recent innovation)
- Divestiture by license or sale

- *Build-Own-Operate*

In the Build-Own-Operate (BOO) type and its other variants such as Design-Build-Finance-Operate, the private sector builds, owns and operates a facility, and sells the product/service to its users or beneficiaries. This is the most common form of private participation in the power sector in many countries. For a BOO power project, the Government (or a power distribution company) may or may not have a long-term power purchase agreement (commonly known as off-take agreement) at an agreed price from the project operator. In many respects, licensing may be considered as a variant of the BOO model of private participation. The Government grants licences to private undertakings to provide services such as fixed line and mobile telephony, Internet service, television and radio broadcast, public transport, and catering services on the railways. However, licensing may also be considered as a form of “concession” with private ownership of assets. Licensing allows competitive pressure in the market by allowing multiple operators, such as in mobile telephony, to provide competing services. There are two types of licensing: quantity licensing and quality licensing. By setting limits through quantity licensing, the government is able to moderate competition between service providers and adjust supply between one area and other. Quality licensing however, does not place any restriction on number of providers or the amount of service produced but specifies the quality of service that needs to be provided. The government may get a fee and a small share of the revenue earned by the private sector under the licensing arrangement.

- *Design-Build-Operate-Maintain & Design-Build-Finance-Operate Arrangements*

In a design-build-operate-maintain (DBOM) arrangement, the aspects of design-build arrangements are combined with those of operations concession arrangements. The private sector entity is allocated the risks of constructing the infrastructure or public facility, along with the risks of its operation and maintenance. In a design-build-finance-operate (DBFO) arrangement, the private sector entity designs and builds the infrastructure or public facility, finances its construction costs, and provides the associated services, typically returning the infrastructure or public facility to the public sector entity at the end of the arrangement. In the latter type of arrangement, financing risk is added to the risks allocated to the private sector entity in a DBOM arrangement. The DBFO scheme is viewed by many as the traditional PPP model to use when the project involves the construction or significant renovation of the infrastructure or public facility. Chart B below illustrates the various parties to a DBFO arrangement:



Note: SPE refers to 'special purpose entity', also known as 'special purpose vehicles'

Source: International Public Sector Accounting Standard Board, Consultation Paper: Accounting and Financial Reporting for Service Concession Arrangements, March 2008

- *Build-Own-Operate-Transfer & Build-Own-Operate Arrangements*

In a build-own-operate-transfer (BOOT) arrangement, the private sector entity owns the constructed infrastructure or public facility until the end of the arrangement, then transfers that ownership to the public sector entity. Thus, risks and responsibilities related to property ownership are allocated to the private sector entity during the arrangement that extend beyond those allocated under a DBFO scheme. A build-own-operate (BOO) arrangement differs from a BOOT arrangement in that the private sector entity does not transfer ownership of the constructed infrastructure or public facility to the public sector entity. Thus, under the BOO scheme, continued assumption of the risk of ownership beyond the term of the arrangement places an even greater degree of risk and responsibility with the private sector entity.

Private Finance Initiative

In the Private Finance Initiative (PFI) model, the private sector similar to the BOO model builds, owns and operates a facility. However, the public sector (unlike the users in a BOO model) purchases the services from the private sector through a long-term agreement. PFI projects

therefore, bear direct financial obligations to government in any event. In addition, explicit and implicit contingent liabilities may also arise due to loan guarantees provided to lenders and default of a public or private entity on non-guaranteed loans.

In the PFI model, asset ownership at the end of the contract period may or may not be transferred to the public sector. The PFI model also has many variants. The annuity model for financing of national highways in India is an example of the PFI model. Under this arrangement a selected private bidder is awarded a contract to develop a section of the highway and to maintain it over the whole contract period. The private bidder is compensated with fixed semi-annual payments for his investments in the project. In this approach the concessionaire does not need to bear the commercial risks involved with project operation.

Apart from building economic infrastructure, the PFI model has been used also for developing social infrastructure such as school and hospital buildings, which do not generate direct “revenues”.

Divestiture

This third type of privatization is clear from its very name. In this form a private entity buys an equity stake in a state-owned enterprise. However, the private stake may or may not imply private management of the enterprise. True privatization, however, involves a transfer of deed of title from the public sector to a private undertaking. This may be done either through outright sale or through public floatation of shares of a previously corporatised state enterprise. Full divestiture of existing infrastructure assets is not very common. However, there are many examples of partial divestiture. In the context of Chart A, privatization occurs through a transfer of the infrastructure or public facility to a private sector entity, generally through sale. The public sector entity divests itself of responsibility for the property and the related delivery of services (other than possible regulatory authority), resulting in maximum risk and responsibility for the private sector entity.

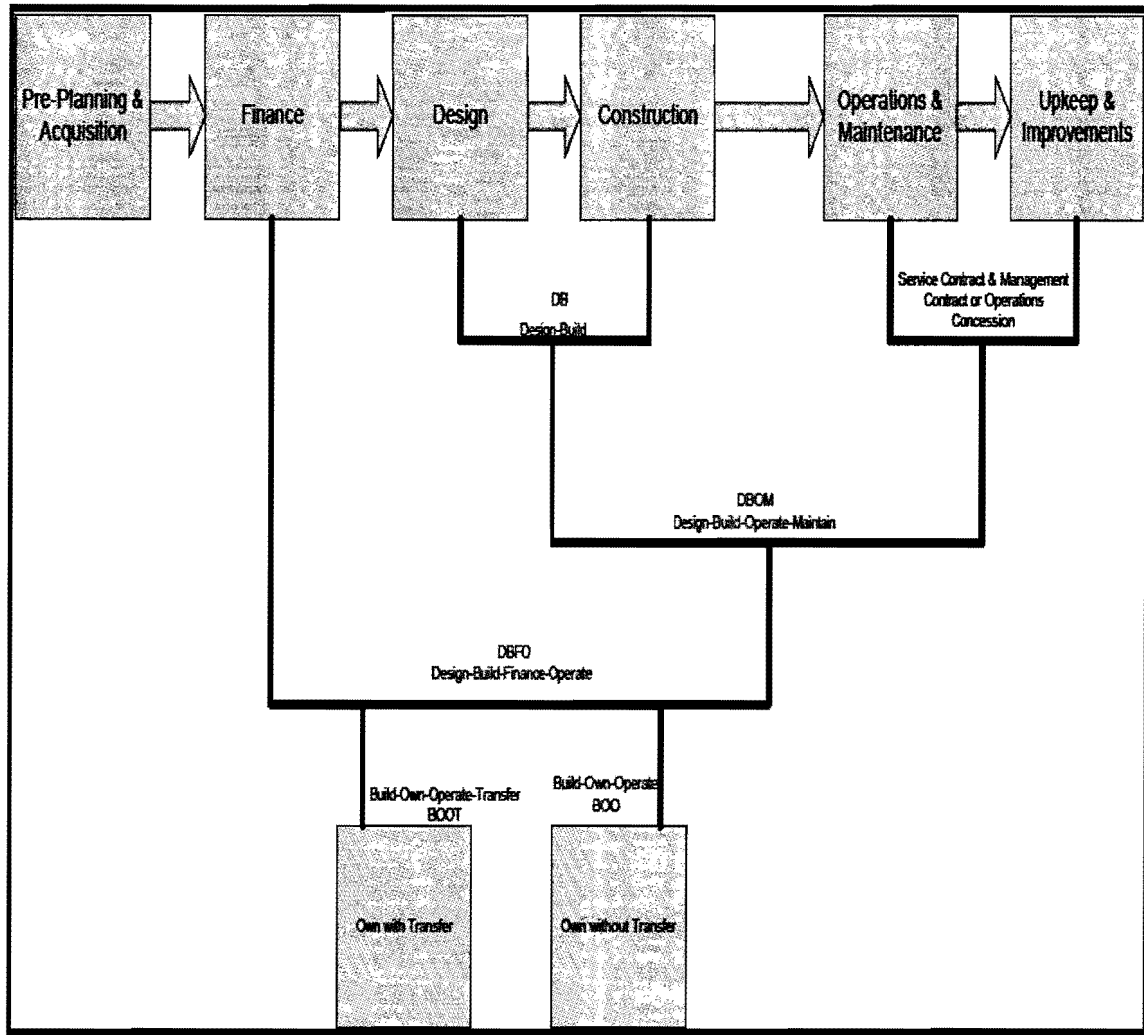
However, PPPs should not be confused with privatization. Under PPPs, accountability for delivery of the public service is retained by the public sector whereas under a privatization,

accountability moves across to the private sector (the public sector might retain some regulatory price control). Under PPPs, there is no transfer of ownership and the public sector remains accountable.

Further, PPPs differ also from public procurement. Public procurement refers to the purchase, lease, rental or hire of a good or service by a state, regional or local authority. Procurement is chosen because of the simplicity of goods or services desired, the possibility to choose from numerous providers, and the wish to contain costs. PPPs are more complex, frequently larger in financing requirements, and are long-term as opposed to one-off relationships. PPPs frequently provide the developer with the right to operate over an extended term, to charge fees to users and to assume key responsibilities e.g. design, construction, finance, technical and commercial operation, maintenance, etc. However, PPPs are related to traditional public procurements in that PPP providers are often selected on the basis of public procurement procedures.

10.3 Summary of Types of PPPs

To summarize the above descriptions of the various types of PPPs, the Chart below depicts the major phases of an infrastructure or public facility project and common types of PPP arrangements that may be used to carry them out.



Source: Adapted from AECOM Consult, Inc. 2007 "Case Studies of Transportation Public-Private Partnerships around the World" p. 2.7 (prepared for the U.S. Department of Transportation Federal Highway Administration Office of Policy and Governmental Affairs). Arlington, VA.

CHAPTER – 11 HOST GOVERNMENT'S PPP RISKS

11.1. Introduction

Traditional procurement methods place most of the risks associated with the underlying project with the public sector entity, although fixed price contracts may transfer some of the construction risk to the private sector entity.

In a PPP arrangement, project risks¹²⁶ are generally allocated between the public sector entity and the private sector entity. A PPP partnership involves several risks, and a balanced sharing of these risks between the public and private sector partners is essential for its enduring success.

11.2. Major Risks associated with PPP Projects

The INTOSAI Auditing Guidance identifies the risks of the governments in PPP projects and those guidelines are framed on the basis of such risks.¹²⁷ The major risks associated with PPP projects¹²⁸ could be described as the following:

¹²⁶ International Public Sector Accounting Standard Board, Consultation Paper: Accounting and Financial Reporting for Service Concession Arrangements, March 2008 available at www.ifac.org/Guidance/EXD-CommentDL.php?EDCID=03827 (last accessed on April 23, 2010)

¹²⁷ The International Organization of Supreme Audit Institutions (INTOSAI) has brought out a set of guidelines for the audit of PPP projects, a summary of which is available at the web site of INTOSAI. These Guidelines caution that there may be need to develop an appropriate audit methodology since the existing practices may not equip SAIs to audit PPPs, as required. While SAIs may develop a set of guidelines specific to their own requirements, public auditors would still benefit by going through the INTOSAI Guidelines before they undertake the audit of any PPP arrangement. Basically, the INTOSAI guidelines list out the key risks facing the Governments and the SAIs in developing / auditing PPP projects, and these include:

- *State's Risks*
 - 1) Lack of clarity about partnership objectives;
 - 2) Inadequate definition of business model of the partnership;
 - 3) Risks associated with negotiating an appropriate partnership;
 - 4) Risks to the State's interests as a minority shareholder;
 - 5) Risk associated with monitoring of the State's interests in the partnerships, and;
 - 6) State's exposure in the event of difficulties
- *Supreme Audit Institutions' Risks.* SAI's risks would include:
 - 1) Insufficient domain knowledge;
 - 2) Lack of expertise required to examine the process and the results;
 - 3) Failure to identifying worthwhile lessons, and;
 - 4) Absence of following up the audit work.

Please see **INTOSAI Auditing Standards** and the Implementation Guidelines for Public Private Partnerships available at www.jbaudit.go.jp/pr/pdf/e15d05.pdf (Last accessed April 23, 2010)

¹²⁸ For a discussion on the accounting treatment of the PPP risks, please refer to 'Accounting and Financial Reporting of Service Concession Agreements: Discussion Paper', International Federation of Accountants (IFAC).

(i) Feasibility / Organizational Risk

This may relate to the selection of the right type of PPP arrangement suitable for the project. Unless the promoting department or PSU has considered different alternatives for implementing the project and selected the most appropriate set up, the project may not succeed in the long run. The Governmental Agency shall have to verify the feasibility study carried out by the promoter including demand projections, cash flow, rate of return etc., and review the analysis carried out before reaching a conclusion on the type of partnership selected for the programme. The risk associated with this aspect will remain with the government agency.

ii) Condition Precedent Risks

The public sector partner will have to fulfill several conditions precedent to enable the private sector partner to start work on the project, including making available the required land and assets etc. and environmental and other statutory clearances. The private party accepts these risks, but delays in making available the required facilities will impact the construction and operation of the project, which in turn will affect the timeliness of providing the service to be provided and also the revenue.

iii) Financing Risk

A major risk for the project will indeed be the financing risk. This describes the risk that the full funding required for the project will not be obtained, or will be obtained at interest rates that would prevent the project from achieving its expected benefits. This risk involves two issues, one regarding the ease with which the required finance could be raised for the project, and the other is about the abatement of interest charges and repayment of the principal. The requirement of finance will be dictated by the total capital cost and the return on investment that the investors would expect to earn. This risk is of course transferred to the private partner, which is responsible for raising the funds and for its repayment. However, the total capital cost and the financing pattern will determine the amount of concession to be granted, and the user charges and the period of the concession. It may also involve government guarantees and commitments in the event of contingencies. In other words, the risk related to financing, though borne by the private sector partner, will impact the promoter as well as the customers significantly. Another aspect that needs to be examined is the collateral agreements between various partners within a consortium of bidders as well as the agreements between such consortia and the financiers if they are independent of the consortia. This is necessary because in more complex PPP arrangements

the risks are widely shared with risk taken by one element of the arrangement being counter-balanced by the risk taken by another element of the arrangement on a back to back basis.

iv) Construction Risk

This encompasses the many issues that may be encountered during the construction phase of a project, such as cost overruns, building material defects, construction delays, planning regulation, structural integrity issues with existing infrastructure, technical deficiencies, health risks, and worksite accidents. Construction risk is assumed in the PPP arrangement by the private sector party which will have to bear the consequences of the delays and variations caused due its inefficiency. On the other hand, all efficiency gains achieved through design efficiency and innovations will be its reward for it to keep.

v) Operation and Maintenance Risk

The public sector partner has to ensure the quality of maintenance and the standard of the service to the public. This will primarily depend on the specifications and conditions laid down in the Operation, Maintenance and Development (OMD) Agreements, which will be one of the most important documents for verification. This risk encompasses a broad range of risks that exist after the infrastructure or public facility becomes operational. Examples include price increases or shortages of materials, increases in labor costs, damage as a result of natural disasters, costs related to deferring maintenance, and obsolescence. Demand and availability risk may also be considered specific components of operational and maintenance risk. The reports to be submitted by the Independent Engineers will provide detailed information on the quality and standard being followed by the private partners. However, the private sector partner which will bear the consequences of under performance in terms of scale and specifications of operation and maintenance of a public facility created under the PPP arrangement may diversify such risk by sub-contracting operation and maintenance to another party. The agreements between the private sector partner and the operation and maintenance contractor would come be reviewed while assessing the risk to the public authority.

vi) Demand Risk

This is a major risk which is usually shared by both parties to the contract. This risk relates to variability in the amount of service required or consumed by users of the infrastructure or public facility. Even though the Detailed Project Report may have provided the basis and the justifications for the demand projections, the private sector partner is expected to conduct his due

CONCLUSIONS & SUGGESTIONS

In the preceding chapters of this dissertation, we have understood the various methods of financing a project. We have also understood the need for financing of projects in India and the various short-comings which prevents private participation in the infrastructure sector. We have also studied the concept of Public Private Partnerships in India, their financial structure, various forms of contracts and their added advantage to financing a project where the State finds it difficult to provide a single reliable source of finance.

Having identified the various shortcomings¹³⁰ which plague the infrastructure project financing in India, I shall now try to address some of these shortcomings by suggesting suitable solutions. I shall conclude my dissertation with a conclusion reflecting my opinion on the subject.

12.1. Committee Recommendations

Before we come to the suggestions of the author, let us examine some of the recommendations made by several committees on improving infrastructure in India.

12.1.1. The Percy Mistry Committee Report¹³¹ made the following recommendations to enable commercial and investment banks to do project financing, regulations must enable banks to do the following:

- Structure and finance long gestation projects without restrictions on term lending (maturity, coupon, currency, collateral) and project bonds.

¹³⁰ A quick summary of all the shortcoming identified in this dissertation are reproduced for reference:

- a. Raising adequate equity financing
- b. Limited mezzanine financing
- c. Restrictions on ECBs
- d. An underdeveloped corporate bond market and the lack of longer term financing
- e. Regulatory issues
- f. Restrictive government policies and regulatory guidelines
- g. Approvals, Red tape and Inadequate Administrative Capacity in Government
- h. Fiscal Barriers
- i. Underestimation of costs of Project.
- j. Inadequate sharing of risks in the project.
- k. Delay in completion of project.
- l. Completions risks allocated to the lenders.
- m. Unbalanced sharing of risks between Banks and Project Company.

¹³¹ Report of the High Powered Expert Committee on Making Mumbai an International Financial Centre, Ministry of Finance, Government of India, 2007. p.243

diligence of the project parameters before bidding for the project. However, since these are contracts for long periods and demands for services would also depend on the state of the economy among other factors, it may happen that there are variations between the projections and actuals. The contracts will provide for readjustments of the concessions / period of concessions to take care of such eventualities. Alternatively, there will be variations to the revenue sharing formulae depending on such variations. The governmental agency should carefully review the assessments of the demand risks and the allocation of such risks, together with all conditionalities attached in the contract to ensure that they are balanced and reasonable from public interest point of view. It must be especially noted that if financial support through Viability Gap Funding (VGF) is provided, the question of increasing the tariff / user charges or the concession period so as to reduce the viability gap does not arise, and is prohibited.

vii) Revenue Risks

Shortfall in demand and consequentially the revenue has the potential of destabilizing the PPP arrangement because the private sector partner may be forced at some stage to opt out. This may not only result in disruption of services but also delay ancillary development thus impacting adversely on the generation of expected revenue. Shortfall in revenue generation will hurt both parties. While the public authority loses the prospect of providing better and early service to the public, the private sector partner will stand to lose potential income. Such variations can also entail higher amounts of annuity being paid to the private sector partner where the public authority is committed to do so under the PPP arrangement. Shortfall in demand and revenue can result from unrealistically higher level of user charges allowed and fixed under the PPP arrangement. It has, therefore, to be seen whether the formula for tariff fixation or user charges is worked out correctly and takes into account the best interest of the user community as well as the investors.

viii) Risk from unforeseen developments

Unforeseen developments such as natural disasters are covered under contractual clauses relating to force majeure. However, there could be other developments which may relate to political and business environment, technological changes or any other factor that proves to be a game changer invalidating all the assumptions on the basis of which the business model of a PPP arrangement rests. Such undefinable risks have to be envisaged under the PPP arrangements and suitable provisions built in to allow all the parties particularly the public authority to extricate

itself from such situations with minimal damage and to facilitate a movement forward out of a potential stalemate. The agreement between various parties may provide 'step in' and/or 'buy out' mechanisms to facilitate exit of one party and its substitution by another party to facilitate continuity of the project.

ix) Termination Risk

This risk will arise if the private sector partner fails in the project because of its management failure, bankruptcy, dismal performance, indebtedness etc. This risk is borne by the promoting public sector partner. The governmental agency will have to consider various aspects relating to the selection of the partner, qualifying procedures, reporting and oversight system etc., before coming to conclusions. It is important to examine whether the public agency has considered the possibility of such events and worked out a suitable strategy to face such risks. The Request for Proposal (RFP) issued by the promoter may be scrutinized to check whether all conceivable eventualities were taken into consideration to anticipate the termination risks and to cope with such situations, in case they arose.

x) Residual Value Risk

This risk relates to the possible difference between the market price of the infrastructure or public facility at the end of the PPP arrangement and the original market price expectation. This risk arises at the end of the PPP contract when the asset is to be transferred back to the government or its agency concerned, who will be holding the risk. The contract between the parties should include suitable provisions regarding the health of the assets, its valuation method and other aspects to avoid disputes and losses arising from poor maintenance of the assets and the assurance for their return in the desired conditions.

Conclusion: All the above risks have to be listed by the Host Government, keeping in view the nature, the magnitude and complexity of the PPP arrangement. In the course of drafting the PPP arrangement, the government will have to ascertain whether all the relevant risks were considered at the stage of project design and adequately reflected in the RFP document¹²⁹ and to what extent the risks have been adequately covered under various contractual arrangements.

¹²⁹ Report on PPP in Infrastructure Projects – Public Auditing Guidelines, Comptroller & Auditing General of India, Government of India, 2009

PART – D
EPILOGUE

CHAPTER – 12

CONCLUSIONS & SUGGESTIONS

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¹³¹ Report of the High Powered Expert Committee on Making Mumbai an International Financial Centre, Ministry of Finance, Government of India, 2007. p.243

- Issue long maturity corporate bonds, and use interest rate derivatives, in order to do duration matching.
- Provide equity financing, convertible and subordinated debt, guarantees for export credits and suppliers' credit, financing import credits, *etc.*
- Risk management of exposure through the project life (currencies, coupon, maturity transformation, performance bonds, contractor guarantees, *etc.*)
- Construction financing.
- Finance projects secured by a sequestered receivables cashflow (*e.g.*, Tolls).

12.1.2. The Deepak Parekh Committee Report recommended that in order to sustain and improve upon the current high GDP growth rate, significant amount of infrastructure investment is required. The committee made its recommendations to develop the domestic debt capital market, to tap the potential of the insurance sector and to enhance the participation of banks, financial institutions and large NBFCs specializing in infrastructure financing.¹³²

12.1.3. The R.H. Patil Committee Report¹³³ recommended that given the numerous problems/hurdles facing the corporate debt market, the reform package needs to have two components. The first set reforms should be of an enabling nature that involve removal of the hurdles that the debt market faces by amending the legislative framework that determine the regulation of the securities markets as also the tax treatment of the debt both at the issuance stage and also trading in the secondary markets. The second set of reforms should involve proactive steps to enlarge issuer base and development of secondary market institutions and market makers.

12.2. Changes in the Regulatory Framework

12.2.1. Streamline the Regulatory Structure

As the boundaries between financial activities blur, it makes sense for the boundaries between regulators to blur, and eventually, for supervision of financial services to be

¹³² The Report of The Committee on Infrastructure Financing, Ministry of Finance, Ministry of Finance, Government of India, May 2007.

¹³³ Report of High Level Expert Committee on Corporate Bonds and Securitization, Ministry of Finance, Government of India, December 2005.

consolidated. Eventual consolidation will reduce overlaps, costs, eliminate gaps in supervision, and improve regulatory and supervisory coordination. It will allow the unified supervisor to take an overall view of risks, including risk concentration and risk transfer, across different kinds of institutions. The unified supervisor will be better able to handle large complex financial institutions. And an integrated regulator will probably offer 'one-stop-shopping', which will speed up innovation, as well as ensure consistency in regulation and supervision across institutions.

An integrated regulator is not an unmitigated blessing. An integrated regulator may have conflicts between objectives. Moreover, there may be a need for a difference in emphasis in different situations—in the case of insurance and banking on prudential supervision, while in the case of markets on business conduct and integrity. Such differences may not sit well within an integrated regulator.

Hence, it is premature to move fully towards a *single* regulator at the moment, given other pressing regulatory changes are needed. However, regulatory structures can be streamlined to avoid regulatory inconsistencies, gaps, overlap, and arbitrage. Steps in this direction should include a reduction in the number of regulators, defining their jurisdiction in terms of functions rather than the forms of the players, and ensuring a level playing field by making all players performing a function report to the same regulator regardless of their size or ownership.

12.2.2. Consolidation of all market regulation and supervision under SEBI

At present, in India, the regulation of organized financial trading is spread between three agencies: RBI (government bonds and currencies), SEBI (equities and corporate bonds) and FMC (commodities, futures). SEBI is ideally suited for filling these roles for several reasons. First, the equity market (both spot and derivatives) is India's most sophisticated and most liquid market; hence, SEBI's knowledge is rooted in the strongest market. Second, the legal foundations of SEBI are relatively recent, and it is less subject to legacy issues. Finally, the vigorous pace at which the SEBI Act and SC(R)A have been amended

in the last decade—in response to the requirements of the equity market—have helped position SEBI to take on new challenges.

12.2.3. Bring all financial intermediaries governed by special statutes under general statutes

Several of the key financial services intermediaries including SBI and its Associate Banks, Public Sector Banks, LIC, GIC, etc., are governed by their own statutes such as the SBI Act, the SBI (Subsidiary Banks) Act, the two Bank Nationalization Acts, the LIC Act and the GIC Act. These special statutes should be repealed, and statutory corporations should be corporatized or formed under the general statutes governing form of business enterprise (such as the Companies Act, 1956 or the proposed LLP law under consideration) and placed on a level playing field with all other financial services intermediaries (that are formed or organized under such general statutes governing form of business enterprise).

12.3. Addressing Financial Sector and Related Regulatory Issues

A deeper and more diversified financial sector could certainly help increase private participation in infrastructure. Developing local capital markets can play a critical role in facilitating private investment in infrastructure. Key priorities include:

12.3.1. Facilitating Equity Financing

In the longer-term, equity finance from financial investors – including private equity funds such as venture capital funds and other institutional investors, which include dedicated infrastructure funds sponsored by a consortium of insurance companies, pension funds, Government sponsored funds, commercial banks, development banks, private fund managers and other privately-held companies – is essential for increasing private investment in infrastructure. The priorities are to:

(a) Liberalizing buyback regulations

In many infrastructure projects, the buyback mechanism is used indirectly to finance suppliers in the following manner. Equity is allotted to the vendors, suppliers, etc at the initial stage as a consideration for the supply of raw materials / machines received from them. When the project becomes operational and the company begins to get sufficient cash to pay for these materials / machines, buyback of these equity shares becomes

necessary to help the developer regain control over the company. In buying back share capital, companies face several restrictions (under Sec 77A of the Companies Act) including on a) the total amount of buyback that can be undertaken by the company, and b) the number of shares which can be bought back in a particular year. These restrictions discourage promoters to place sufficient equity with vendors/suppliers at the initial stage, and thereby compel them to infuse more equity than would have been the case under liberalized regulations for buy-back. It is therefore, recommended that in case of unlisted infrastructure companies, the buyback restrictions vis-à-vis vendors/suppliers be liberalized.

(b) Improve exit policies to make it easier for investors to exit.

In this context, a key priority is for RBI to introduce enabling regulations for the use of put options as an exit mechanism for investors in unlisted (privately held) companies. At present, the regulations do not allow financial investors to reach an upfront agreement with sponsors on the terms of a put option, if the sponsor company is unlisted. Greater comfort on exit would encourage financial investors to take equity in Greenfield infrastructure projects by having some defined, low guaranteed returns. An additional, and desirable, outcome of this would be that with the entry of more financial investors in the equity market, it would broaden the investor base and with successful closing of projects it would increase investor confidence.

(c) Venture or Private Equity funds as bidding partners

Currently, SEBI registered venture funds / private equity funds cannot be taken as bidding partners, as these funds do not meet conventional qualification criteria such as gross revenue, net worth or net cash accruals. Considering the shortage of risk capital in the country, it would make sense to allow these funds to become bidding partners. To facilitate their participation, it is recommended that the criteria to qualify as bidding partners should be not the net worth of the private equity or venture investment manager, but the uncommitted investible funds managed by these entities and available for deployment.

- (d) Other factors that would help increase equity investment in infrastructure projects include better corporate governance, with a particular focus on minority shareholder protection rights.¹³⁴

12.3.2. Encouraging the use of more innovative financing instruments like mezzanine and takeout financing

- (a) *Removing interest rate caps on ECBs* could encourage foreign investors to use instruments like mezzanine and take out financing for infrastructure investment: The Government should consider either removing the 350 basis point interest rate cap above LIBOR on infrastructure loans above 5 years, or, at the very least, double the cap to 700 basis points above LIBOR. In addition, tools for mitigating the risks involved for international lenders should be developed — for example, Partial Risk Guarantees (PRGs) to hedge against political risk, and developing the swap market to mitigate foreign exchange risk.
- (b) *Extending fiscal concessions*, such as those under section 10(23G) to venture capital and private equity funds that invest in infrastructure, could also help encourage mezzanine financing.
- (c) *Rationalization of stamp duties* would facilitate the use of takeout financing and securitization in states where these duties remain high. High stamp duties levied at ad valorem rates are barriers to securitization as well as take-out financing. While it is desirable to waive stamp duties for transactions relating to infrastructure projects, this may not be possible because these duties often form a sizable part of a state's revenues. An alternative is to: (i) reduce the duties to a uniform low rate across all states, and (ii) charge a lump-sum specific duty for transactions beyond a certain threshold. Inadequate takeout financing can affect annuity and BOT projects in roads, in power as well as in ports.

¹³⁴ The legal framework and stock exchange rules should provide for full disclosure of shareholder agreements that could have an impact on how the company is governed or how other shareholders may be treated. For example, agreements include understandings with respect to the exercise of voting rights, puts and calls, rights of first refusal, and powers of certain shareholders to nominate corporate officers. Detailed policy recommendations are available in the Corporate Governance ROSC for India (Report on the Observance of Standards and Codes). The ROSC report can be accessed at http://www.worldbank.org/ifa/rosc_cg-ind.pdf. The Bank is working in close cooperation with the Ministry of Company Affairs to address several of the issues raised in the ROSC assessment.

12.3.3. Developing a longer term corporate bond market

A well developed government bond market is a critical prerequisite to the development of the corporate bond market. Hence, there is an urgent need to increase the depth and the breadth of the government bond market, through the following measures:

- (a) To improve the breadth of the government bond market, the government should consider recalling the existing illiquid, infrequently traded bonds and re-issue liquid bonds.
- (b) The existing regulation that requires institutional funds such as pension funds and insurance funds to hold till maturity all government securities should be removed and they should be allowed to actively trade in the market.
- (c) To bring in more retail investors to the government bond market there is a need to introduce an element of marketability and price discovery, which can only be brought in by making securities trading screen based and more transparent

12.3.4. Removing Regulatory asymmetry between loans and bonds

The regulations relating to investments in bonds are far more restrictive compared to granting of loans. It is recommended that:

- (a) Banks should be allowed to invest in unrated and unlisted bonds issued by at least the infrastructure companies.
- (b) Banks need to be given an option to classify their bond holdings under either the trading category (with mark-to-market implication) or HTM category (subject to only ALM norms). At a minimum, long term infrastructure bonds (with maturity more than 5 years) held by banks should be allowed to be classified under HTM category up to 5% of their total liabilities.

12.3.5. Enhancing participation of banks, financial institutions (FIs) and large NBFCs in infrastructure financing

Banks, FIs and large NBFCs play a vital role in infrastructure financing through originating, underwriting and distributing risk. While their significance is growing, they are likely to face increasingly severe resource constraint to maintain growth momentum. Although banks have had a rapid growth in their exposure to infrastructure sectors in the last few years, they will perhaps find it difficult to maintain similar growth in the years to come in the face of prevailing exposure

norms and growing maturity mismatch, unless they are allowed to transfer risks from their balance sheets to other players in the financing system. Similar problems may be faced by FIs and NBFCs as well. In view of the enormous infrastructure funding requirement, larger financing by banks, FIs and large NBFCs needs to be facilitated. In this respect, the Committee makes the following recommendations:

(a) *Securitization* helps transform loans to tradable debt securities, and thereby facilitates financial institutions to not only address the exposure norm constraints, but also distribute risks more efficiently even among those who do not have the skills to appraise them. To further facilitate securitization of existing infrastructure assets by banks, FIs and NBFCs to other domestic and overseas investors, the following key steps need to be taken:

- i. Inclusion of Pass Through Certificates (PTCs) under the definition of 'security' as per SCRA, will enable the listing of these PTCs and thereby help in increasing the transparency of the market and tradability of the instrument.
- ii. Rationalization of RBI's guidelines on securitization in line with international best practices: The guidelines issued by RBI for securitization of standard assets are a welcome move towards creating a more transparent and better regulated securitization market in India. However, there are certain areas where these guidelines are not in line with international best practices (see Annexure B) and hence may need amendments to stimulate the growth of securitization market.
- iii. To increase the investor base, IIFCL should be allowed to invest at least in the senior tranches of securitized papers relating to infrastructure companies. (IIFCL which can be a potentially large investor in securitized paper in infrastructure is currently not allowed to invest in such papers.)

(b) *Rationalizing exposure norms of financial intermediaries*

- i. The current regulatory policies treat lending to step-down project SPVs floated by infrastructure companies under the group borrower limits even if the lending is without recourse to the parent company. This provision does not add to stability of the banks but restricts their ability to lend. Hence, lending to step-down subsidiary (without having recourse to the parent) should be exempt from the group exposure limit. The group exposure limits were prescribed to ensure that banks do not suffer due to cross holding of ownership among various corporate

group entities. The step-down subsidiaries created to execute a particular infrastructure project without any dependency on the parent whatsoever do not involve cross holdings. Additionally, the lenders escrow the subsidiaries' revenues and funds can flow back to the parent or other step down subsidiaries of the same parent only after the repayment of debt or on meeting of the prescribed financial covenants. Hence, the banks' lending to these subsidiaries is not vulnerable to the bankruptcy of the parent. There is thus a strong case for removal of exposure to such subsidiaries from group exposure limits.

- ii. At present, conditional take out financing is subject to 100 percent risk weight for provision of capital by both the entities involved simultaneously (with the take-out financier using a credit conversion factor of 50% till the take-out happens), which results in i) maintenance of excess capital, thereby restricting take-out financier's lending ability and ii) increase in the lending costs. The latter occurs because the take-out financier charges a fee for maintaining capital. Hence, it is recommended that the credit conversion factor be reduced to 0% till the takeout happens for infrastructure sector.

(c) *Resource Mobilization:* To enable banks/NBFCs to mobilize sufficient resources of suitable tenor and nature for infrastructure financing, the following recommendations are made:

- i. *Foreign borrowing for on-lending to infrastructure sector.* The existing guidelines do not allow financial intermediaries such as banks, financial institutions and NBFCs to raise foreign currency borrowings for on-lending to infrastructure sector. It is recommended that these intermediaries should be allowed to raise long term resources (say minimum 10 years) from overseas market. There is a dearth of long term resources in the domestic market, but not so in the international market. Since it is difficult for infrastructure companies to directly access foreign markets in view of the projects being sub-investment grade, intermediation of foreign funds by domestic financial intermediaries is imperative.
- ii. *SLR requirements on long term funds.* Currently, banks are required to maintain 25% of their demand and time liabilities as SLR regardless of the tenor of the

liabilities. It is recommended that the resources, whether domestic or foreign, raised by banks for a long tenor (say at least 10 years) by way of bonds/term deposits for investment in infrastructure assets should have no SLR requirement. This will reduce the cost of intermediation for infrastructure and hence, induce banks to have a relatively larger exposure to infrastructure than other sectors. In addition, this will encourage banks to use long term funds for long term lending.

12.3.6. Development of Domestic Debt Capital Market

The creation of a deep and robust debt capital market is a key to making available long term debt instruments for infrastructure. To further develop the domestic debt capital market, which is currently at a nascent stage, the following initiatives would be necessary:

- (a) *Implementation of the Patil Committee Recommendations:* There is a need to expedite the implementation of Patil Committee recommendations for the development of corporate bonds and securitization market. The key recommendations not yet implemented that need priority in implementation are listed below. These are considered critical initial steps as, a) they can be implemented broadly in isolation from other recommendations and, b) their impact on the bond market development will be quick and substantial, thereby creating a favorable ground for more comprehensive reforms.
- (b) *Consolidation of all regulations* pertaining to issuance of corporate debt securities under the aegis of SEBI to minimize multiplicity of regulators. Currently, guidelines relating to issue of debt securities are issued by SEBI, Company Law Board, stock exchanges and host of other entities. This makes compliance with the guidelines a difficult and cumbersome process. Also, multiplicity of regulators creates problems in effective supervision. Hence, it is desirable that a consolidated guideline and a single regulator be evolved. It is logical that SEBI be entrusted with this role given the fact that it is already responsible for all public and private placements of equity / equity linked instruments issued by corporates.
- (c) *Removal of TDS* on corporate bonds in line with GOI securities. Trading in corporate bonds becomes cumbersome due to tax deducted at source (withholding tax). At the end of the financial year, withholding tax on corporate bonds is deducted on accrued interest and a withholding tax certificate is issued to the registered owner. Interest payment,

however, is made to the registered holder on the interest payment date, after deducting the withholding tax due. When trading takes place in a corporate bond, holders are forced to settle through physical exchange of cash. Further, investors who are not subject to withholding tax find it difficult to sell bonds to those who are subject to such tax (for example, insurance companies and mutual funds).

- (d) *Reduction and uniformity in stamp duty* on issuance of debt instruments and on securitization transactions. The stamp duty applicable on debt instruments is not only high as compared to developed markets but also different across various states. Since stamp duty impacts heavily the cost of issue of the debt instrument, it makes debt less attractive vis-à-vis loans. Further, high variability in stamp duties across various states inhibits the development of a more broad based market.
- (e) Allowing *repo transactions on corporate bonds* in inter-bank repo market through a specialized clearing and settlement platform. Secondary market trading cannot take place unless there are enough dealers offering quotes in the market. Since dealers operate with funded portfolios, they are able to offer quotes at low spreads only if they can carry their stocks at a low cost. The success of government securities market is due to the availability of repos which enable the dealers to carry their stocks at a low cost. The absence of similar arrangement for corporate bond market puts it at a considerable disadvantage.

12.3.7. Tapping the potential of insurance sector

The world over, long-term liabilities have been used to finance long term assets, underlining the relative importance of insurance companies in infrastructure development vis-à-vis banks. By global comparison, Indian insurance companies, however, have not played a significant role in financing infrastructure projects, particularly those sponsored by private companies. Currently, both public and private insurance companies are looking for long term investment opportunities including in infrastructure sector but are not finding enough avenues and instruments that match their investment policy.

This is due to their risk-averse attitude and preference for public sector on one hand and (partly) restrictive regulations on the other. In view of the recent introduction of private

players into insurance business and the potential role of insurance companies in infrastructure, it is suggested that there is a need to firstly, make a comprehensive review of insurance regulations aimed at making them more modern, streamlined, unambiguous and well-understood and secondly, strengthen supervision, in the same manner that led to a transformation of regulation and supervision of commercial banks during the 1990s. While such a process may take some time, some immediate initiatives to stimulate infrastructure investment by insurance companies have been suggested.¹³⁵

These suggestions broadly try to achieve the following aims: (a) widen the scope of infrastructure financing by insurance companies in terms of sectors, and (b) liberalize the investment guidelines in terms of quality and types of eligible instruments, while relying more on management decisions. The first relates to the definition of infrastructure. The second relates to the rigidities of regulation and requires some elaboration of the context. Insurance investments other than in government securities can be classified as 'approved investment' and 'other than approved investment'.

The difference between the two categories, relevant for the current discussion, is that only approved investments are eligible for inclusion in 'Infrastructure and Social Sector', which requires minimum mandated investment on one hand and are not constrained by exposure norms on the other. There are, however, some provisions under the approved category that discourage the scope of both debt and equity investment in infrastructure. These restrictions need to be removed with respect to infrastructure sectors to provide the insurance companies greater flexibility in deciding appropriate portfolio and wider access to instruments.¹³⁶

12.3.8. Encouraging participation by FIs in infrastructure financing

Investment policies and regulatory guidelines for insurance companies, pension funds, mutual funds, banks and other FIs need to be sufficiently flexible for these entities to choose an appropriate risk-return profile within fiduciary constraints. This will also help

¹³⁵ A committee in IRDA is currently examining the issues regarding the investment policy of insurance companies to bring them in line with global best practices.

¹³⁶ Report of the Committee on Infrastructure Financing, Government of India, May 2007 p. 25- 26

professionalize fund management. While it would not be appropriate or practical to introduce radical changes in investment guidelines at this stage, primarily because issues such as high rate of assured return, deficiencies in the accounting methodology, lack of skills in fund management need to be resolved first, there is certainly a need to deregulate these sources of long-term finance and formulate prudential norms for infrastructure related projects. The authorities should look at the existing investment norms prescribed for insurance, EPF and PPF with a view to relaxing them so that these institutions can commit significantly larger amounts of long-term funds for infrastructure.

12.3.9. Stimulating foreign investments into infrastructure

- i. *Steps for improving FII participation:* Currently, in 100 percent debt schemes, individual limits are allocated to FIIs in a manner that results in low absolute limits for each FII, weakening their incentive to actively utilize their respective limits. Whatever little trading that takes place under these limits is largely motivated by arbitrage. To ensure that the limits get better utilized and to attract genuine long term investors as opposed to arbitrage traders, the following recommendations are made:
 - Replace the existing allocation process (of individual limits) with a first come first serve rule for the 100 percent debt scheme, as in the case of 70:30 schemes.
 - Once the limits start getting sufficiently utilized, additional limits (for investment in long term debt instruments issued at least by infrastructure companies) should be considered.
- ii. *Refinancing through ECBs:* The existing guidelines do not permit domestic financial intermediaries to refinance existing rupee loans from external sources, although there is a potential market for it. It is recommended that refinancing of existing rupee loans through ECB should be allowed for *infrastructure* sector, because of the following benefits that it would yield:
 - Some foreign financiers, who are not keen to participate in projects in early, risky stage, may show interest in the post-construction period when the risks subside.
 - Indian lenders to infrastructure projects would like to have some of their loans refinanced in order to churn their asset portfolio, and at times, to limit their risks.
 - Local promoters will benefit from greater diversity of funding sources as well as better price discovery. Refinancing from external sources would be particularly attractive in

situations similar to the current one, when domestic interest rates are relatively high and the rupee is tending to appreciate.

- iii. *Separate treatment for infrastructure holding companies:* At present, most developers house all their infrastructure investments in a holding company as a separate business from that of the parent company. These holding companies get classified as NBFCs under RBI guidelines due to their income and asset patterns being largely financial in nature. This puts several restrictions on the holding companies.¹³⁷ Since the holding company corporate structures facilitate infrastructure development, they need to be treated as a separate class of NBFCs(say infrastructure NBFCs) that are exempt from these restrictions. Specifically, the infrastructure holding companies should be allowed to raise FDI under the automatic route.
- iv. *Relaxing the all-in-price ceiling for subordinated and mezzanine debt:* The current ceiling of LIBOR+350 basis points for ECBs makes it difficult for the issuers to raise senior debt, subordinated debt, mezzanine financing or quasi equity as the maximum permissible return is not considered enough to match the perceived risk. Keeping in view the long term nature of infrastructure projects and the need for risk capital (in the form of quasi equity), this all-in-price ceiling on ECBs should be removed for senior, subordinated and mezzanine foreign debt for infrastructure projects. This suggestion is aimed at assuring liquidity for longer tenors, and in many cases, protecting promoters of infra projects from illiquidity in domestic loan markets due to seasonal factors.

12.4. Streamlining Approvals, Cutting Down on Red Tape and Enhancing Infrastructure Regulation

The Government needs to assure potential investors that there is an intention to lay out clear policy frameworks for each sector and reduce uncertainties arising out of policy implementations and arbitrary actions in contractual commitments of the governments.

¹³⁷ The Deepak Parekh Committee Report on Infrastructure Financing lists some of restrictions that are enumerated below:

- Compliance with stringent regulatory requirements applicable to regular lending NBFCs;
- Limits on bank borrowing by these companies ;
- ECBs not allowed under the automatic route;
- FDI investment in these companies not allowed without RBI approval;
- Investment in these companies by registered venture capital funds is subject to regulatory approval.

All infrastructure projects involve multiple clearances from different Ministries and Departments which contribute to significant delays. In order to mitigate this problem, the GoI needs to set up sufficiently high-level Inter-Ministerial Groups (IMG) for roads, power, telecom, ports and airports. Ministries which are represented in each of these groups would vary according to the sector. It would be useful for these groups to be formed under the aegis of the Planning Commission, and for them to meet once every three to four months to discuss and resolve all outstanding Inter-Ministerial issues.

In addition, infrastructure is an urgent national priority. To give it the importance it deserves, there has to be a clear signal that the ownership lies at the highest level of government. Therefore, it would be advisable for the Prime Minister's office (PMO) to have a dedicated infrastructure secretariat which would not only monitor the status of projects in different sectors but also convene quarterly meetings between the Prime Minister and those of his cabinet colleagues in charge of infrastructure ministries. This secretariat could ensure consistency in policy formulation and implementation for various infrastructure sectors, and would liaise with various government agencies to present a single window clearance to the private sector. This act alone would demonstrate the governments focused commitment to infrastructure.

12.5. Building Capacity of the Government to stimulate PPP Projects

There is a need to encourage entry of the private sector in infrastructure development through viable PPP projects, and it is a fact that private investors in infrastructure look for stable and friendly sector specific policies. Developing domestic capabilities to manage, participate in and finance private infrastructure projects is important to broaden the constituency of PPPs, enlarge the pool of funding, and mitigate foreign exchange risk. In industrialized countries, and increasingly in more mature reformed developing countries, one of the largest sources of financing for investment is the utility's own cash flow. But additional funding will have to come from domestic capital markets and from pension funds/ insurance companies. This will require strong macroeconomic framework and a solid financial infrastructure, as well as attractive investment opportunities.

In addition, if there is to be an increase in the usage of PPPs, the Centre would have to work to strengthen oversight of their fiscal costs and assist state governments in doing the same. The investment needs for infrastructure are enormous. India faces a very large financing gap which needs to be bridged by domestic as well as foreign private sector investments. Success in attracting private funding to infrastructure will depend partly on India's ability to develop a more sophisticated financial sector, requiring reforms that facilitate the use of diverse financial instruments by investors, and address the current barriers to increased participation by both sponsors and financial institutions.

In summary, securing increased private funding for infrastructure on a sustained basis will require widespread reforms in infrastructure – reforms that go well beyond the financial sector. In the foreseeable future, Government will remain the key investor in critical infrastructure sectors, although PPPs could help reduce some of the funding pressure on Government. The Government's ability to finance infrastructure will, of course, depend crucially on the success with which it is able to progressively reduce the fiscal deficit to make available public funds for infrastructure investment.

12.6. Conclusion

Project financing is an adequate source to finance the Infrastructure projects in India. In India Project financing is fraught with will several problems like absence of Law relating to Lease Financing, Recovery of Loans and Debts and a specific Legislation or Regulation for Project Financing Itself. Because of these lacunae, financiers are reluctant to finance the projects. Private participation in project financing is in a very nascent stage in India because of the instability and uncertainty in this sector.

Project financing needs a stable, transparent and effective Statutory, Regulatory and Financial framework in which the lender should get the returns of his investment, the government has to take necessary steps to increase the investor confidence in this sector. A specific law dealing with Project Financing is required which should lay down the various safeguards for protecting the interest of both the lender and debtor.

Private participants should be given sops and incentives to invest in project financing by the government in form of tax exemptions and other reliefs. The government should look forward for Public-Private partnership in project financing as this collaboration will not burden either of the parties and both will have mutual advantages of this tie. These new measures should aim for boosting the financiers and investors confidence in project financing and then only we can spend that capital for the creation of infrastructure projects. These infrastructure projects then will become precursor for the national development.

Sufficient instruments as well as the ability to undertake long-term equity cannot be provided by the market in the present financial scenario. Also financial liability required by infrastructure projects would not be sufficed. Most sectors face a lot of hindrance in enabling a regulatory framework as well as a consolidated policy. So it is important to convert such policies into PPP friendly. To achieve the desires results, active participation of various state projects are essential. Lack of ability of private sectors to fit into the risk of investing in diversified projects also needs to be overcome. Modernization of new airports, transmission systems and building power generating plants are some of the avenues which required skilled manpower. Ability of public institutions to manage the PPP process should also be subdued. Maximizing the return of the stakeholders needs to be managed due to the involvement of long term deals including the life cycle of the asset infrastructure. Lack of credibility of bankable infrastructure projects used for financing the private sector should also be overcome. Inconsistency is still visible in the limitations of PPP projects, despite of continued initiatives by States and Central ministries. Inadequate support to enable greater acceptance of PPPs by the stakeholders forms another source of constraint.

Further, Public-private partnerships (PPPs) in the delivery of public services have become a phenomenon which is spreading the globe and generating great interest. But why is a concept, barely mentioned a decade ago, now attracting such interest? Overall, the answer is that PPPs avoid the often negative effects of either exclusive public ownership and delivery of services, on the one hand, or outright privatization, on the other. In contrast, PPPs combine the best of both worlds: the private sector with its resources, management skills and technology; and the public sector with its regulatory actions and protection of the public interest. This balanced approach is

especially welcome in the delivery of public services which touch on every human being's basic needs.

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