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Infrastructure Financing In India: A Review

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ABSTRACT

Infrastructure is a critical determinant of investments, manufacturing depth, logistics, productivity, inclusive development, national integration and poverty reduction. Insufficient capacity across infrastructure sectors leads to a widening infrastructure gap, resulting in lower productivity, higher transport and logistics costs, reduced competitiveness, and slower growth. Infrastructure also plays a great role in accelerating economic development of a country. Infrastructure is the capital of an economy. It is a component of capital stock that promotes development by linking the production points with input supplies including lab our through transport & communication .Infrastructure helps in reducing poverty, promotes development & facilitates functioning of economy. Indian planners are fully aware of the link between infrastructural facilities and general economic development and accordingly, they gave high priority to the rapid expansion of these facilities right from the first plan itself. The investments made by government on infrastructural facilities could be easily justified since they have provided for necessary agricultural development and industrial expansion. There has been threefold rise in agricultural production and seven fold rise in industrial production

Key Words: *Capital Stock, Economic Development, Infrastructure.*

1. Introduction

Infrastructure is basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function. It contains a set of interconnected structural elements that provide framework supporting an entire structure of development. It is an important term in judging a country's development. Thus it refers to technical structures like road, bridges, water supply, sewers, electrical grids, and telecommunications. If viewed functionally .it refers to production and distribution of goods and services as well as basic social services.

Infrastructure can be of two types- hard as well as soft. Hard infrastructure involves large physical networks necessary for the functioning of modern industrial nations Ex: Transportation infrastructure, energy, water management, communication,

solid waste management, earth monitoring and measurement work. While 'Soft infrastructure 'refers to all institution which are required to maintain the economic, health and cultural and social standards of a country, such as financial system, education system, system of government, law enforcement etc.

2. Infrastructure Development and Financing in India

Infrastructure also plays a great role in accelerating economic development of a country. Infrastructure is the capital of an economy. It is a component of capital stock that promotes development by linking the production points with input supplies including lab our through transport & communication .Infrastructure helps in reducing poverty, promotes development & facilitates functioning of economy. Indian planners are fully aware of the link between infrastructural facilities and general economic development and accordingly, they gave high priority to the rapid expansion of these facilities right from the first plan itself. The investments made by government on infrastructural facilities could be easily justified since they have provided for necessary agricultural development and industrial expansion. There has been threefold rise in agricultural production and seven fold rise in industrial production. The five year plans have given great support to infrastructural facilities for urban areas. In other ways we had a neglected attitude towards rural areas, leading to inadequate rural development. It is sure that infrastructure development of a nation involves building new dams, rivers, bridges, powerhouses, railways, ports, airports and even network industry. The union budget has allocated during 2011-2012 an amount of Rs. 214000 crore for infrastructure development. The eleventh five year plan had estimated $ 488 billion for infrastructure development and it is expected that it will rise to$1025 in the twelfth five year plan.

3. Statement of the Problem

Infrastructure is a critical determinant of investments, manufacturing depth, logistics, productivity, inclusive development, national integration and poverty reduction. Insufficient capacity across infrastructure sectors leads to a widening infrastructure gap, resulting in lower productivity, higher transport and logistics costs, reduced competitiveness, and slower growth. In order to sustain a GDP growth rate of 9-10%, the manufacturing sector needs to grow at 13-14% per annum. To achieve this, India needs to rapidly attract global investors through the creation of world class infrastructure and reduced logistics costs, supported by an enabling policy framework. Infrastructure projects are complex, capital intensive, and have long gestation periods that involve multiple and often unique risks to project financiers. Due to its non-recourse or limited recourse financing characteristic (i.e., lenders can only be repaid from the revenues generated by the project), and the scale and complexity, infrastructure financing requires 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.

The risk assessment for a project and its allocation will depend on the conditions including the type and location of the project, the sector, feedstock supply and off-take arrangement, and the proposed technology etc. Insufficient knowledge and appraisal skills related to infrastructure projects also add to the risk. .

4. Objectives

1. To study the present methods of infrastructure financing in India.
2. To identify the measures taken by Government in infrastructure financing and also the funding gap.

5. Methodology

The present study takes the form of an analytical study based on the secondary data available from reports of RBI, Planning commission, census reports, journals, working papers and internet. The all round infrastructure development is taken for study. The institutions providing funds are considered by dividing into private, public sector institutions. The various instruments used to fund the same are considered. The period of study involves the period of 2006-2012(eleventh plan). The simple tools of percentages are considered for the study.

6. Findings

The Infrastructure finance market in India is characterized by the absence of an active long term corporate debt market, asymmetric information on infrastructure projects, and inherent risks in financing infrastructure projects. Adding to the problem of inadequate long-term funds is the conversion of development finance institutions (DFIs), which had been the major source of long-term finance earlier, into commercial banks which face asset liability mismatch issues and are rapidly nearing their limits for sectoral and group exposure.

The eleventh five year plan of India recognized inadequate infrastructure as a major constraint on rapid growth. Recognizing the importance of infrastructure development in stimulating economic growth, Government of India planned to raise infrastructure investment to over 8 per cent of GDP by the end of the Eleventh Five Year Plan (2007-12). The total revised estimated expenditure for investment in infrastructure during the eleventh five year plan is estimated at around Rs. 21 lakh crore. The total investment in infrastructure is estimated to have increased from 5.7 per cent of GDP in the base year (2006-07) of the 1 and 2 Mid-Term Appraisal, Eleventh plan, Planning Commission.

To step up investment in the infrastructure sector, apart from increasing budgetary allocation for the sector, the Government has been encouraging the private sector to participate and invest in the sector. Resultantly, during the past four years, a number of Public-Private Partnerships (PPP) has come up in the sector. It may be mentioned that private investments accounted for about 36 per cent of total investment in infrastructure in the Eleventh Plan. At present the following methods are used in infrastructure financing: The following table shows the sources of financing in India

Table1: Sources of financing infrastructure in India

Domestic Sources	External Sources
• *Equity* • Domestic investors (independently or in • collaboration with international investors) • Public utilities • Dedicated Government Funds • Other institutional investors	• *Equity* • Foreign investors (independently or in collaboration with domestic investors) • Equipment suppliers (in collaboration with domestic or international developers) • Dedicated infrastructure funds • Other international equity investors • Multilateral agencies
Debt • Domestic commercial banks (3–5 year tenor) • Domestic term lending institutions (7–10 year tenor) • Domestic bond markets (7–10 year tenor) • Specialized infrastructure financing • Institutions such as Infrastructure Debt Funds	**Debt** • International commercial banks (7–10 year tenor) • Export credit agencies (7–10 year tenor) • International bond markets (10–30 year tenor) • Multilateral agencies (over 20 year tenor)

6.1 Difficulties Faced in Financing

• Large amounts for long period of time are required

• Higher gestation period involved

• Uncertainties associated in implementation of project like environmental clearance, opposition by social activates, updated technology etc.

To support the high economic growth, the investment requirements in the infrastructure sector is estimated to be around 45 lakh crore during the Twelfth plan period. This implies that infrastructure investment will need to increase from about 8.0 per cent of GDP in the base year (2011-12) of the Plan to about 10.0 per cent of GDP in 2016-17. Over the plan period as a whole, the infrastructure investment is estimated to be about 9.95 per cent of GDP[4]. Financing of this investment would require larger outlays from the public sector, but this has to be coupled with a more than proportional rise in private investment. Going forward, the share of private investment in infrastructure may, in fact, have to increase to 50.0 per cent in the Twelfth Plan. However, this estimate on infrastructure investment has to be understood with caution as the underlying assumption is nine per cent growth in GDP throughout the plan period. But at any case, even with GDP growth of seven or eight per cent, if we want to invest around ten per cent of GDP in the infrastructure sector, the financing requirement is going to be huge. The table given shows the projected % investment in infrastructure as a part of GDP.

Table 2: Projected % of GDP Invested in Infrastructure during 11th Plan

Particulars	Tenth Plan	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	Eleventh plan
Public Investment	3.89	4.23	4.76	4.90	5.02	5.07	4.82
Private Investment	1.26	2.21	2.42	2.61	2.92	3.30	2.73
Total	5.15	6.44	7.18	7.51	7.94	8.37	7.55

Source: Mid-Term Appraisal of the Eleventh Five Year Plan, Planning Commission.

Table 3: Projected % of GDP to be Invested in Infrastructure during 12th Five Year Plan

Particulars	Base year	2012-2013	2013-2014	2014-2015	2016-2017	Total
Infrastructure Investment As % of GDP	8.37	9.00	9.50	9.90	10.30	10.7

According to the Planning Commiss ion, during the first three years of Eleventh Five Year Plan, funds from the Central Government budget financed around 45 per cent of the total investment in infrastructure. The remaining 55 per cent was divided between debt financing (41 per cent) and equity financing (14 per cent). It is noteworthy that within the debt financing, commercial banks alone financed around 21 per cent and another 10 per cent was financed by the NBFCs. Notably other sources of financing, such as, External Commercial Borrowings (ECBs), equity, FDI and insurance companies financed less than 10 per cent of the total infrastructure investment each.

6.2 Issues in Infrastructure Financing

***6.2.1 Funding Gap**:* Funding Gap is the most important issue that we face on this front. According to the estimates made by the Planning Commission in March 2010, after taking into account the recent trends in different sources of infrastructure financing, the funding gap in the infrastructure sector during the last two years of the Eleventh Five Year Plan is likely to be Rs.1,27,570 crore, which is around 18 per cent of the total estimated requirement (Table 3). The slowdown in the economy experienced after March 2010 has further aggravated this funding gap in the infrastructure sector during the Eleventh Plan. More recently, in the context of Eurozone debt crisis, accessing external resources by way of ECBs could also become difficult and this would also accentuate the funding gap. Table 5 shows the sources of funds, Fund requirement, availability, Funding Gap and Percentage of Gap to Requirement.

Table 5: Funding Gap

Source of Funds	Estimated Requirement	Estimated Availability	Gap	Percentage
Commercial banks	2,67,480	2,02,027	65,453	
NBFCs	1,24,699	1,00,651	24,048	
Insurance Companies	52,046	42,330	9,716	
ECBs	76,984	50,515	26,469	
Total Debt Funds	5,21,208	3,95,523	1,25,685	24.11%
Equity	1,86,456	1,84,571	1,885	1.01%
Total	7,07,664	5,80,094	1,27,570	18.02%

6.2.2 Fiscal Burden: Government through budget allocations have been financing infrastructure sector. However as it has more area to cater to and there is a limit to the Government financing it is important to explore other avenues for financing infrastructure.

6.2.3 Asset-Liability Mismatch of Commercial Banks: After the budgetary support, next in line for financing infrastructure were funds from the commercial banking sector. However, it is a well known fact that these are institutions that primarily leverage on short-term liabilities and, as such, their ability to extend long-term loans to the infrastructure sector is limited. This is because, by doing so they get into serious asset-liability mismatches.

6.2.4 Investment Obligations of Insurance and Pension Funds: From the point of view of asset-liability mismatches, insurance and pension funds are one of the best suited institutions to invest in the infrastructure sector. This is because, in contrast to the commercial banking sector, these institutions leverage on long-term liabilities. However, they are constrained by their obligation to invest a substantial portion of their funds in Government securities. However, this limits the direct investment of these institutions in the infrastructure sector.

6.2.5 Need for an Efficient and Vibrant Corporate Bond Market: An active corporate bond market can facilitate long-term funding for the infrastructure sector. However, despite the various initiatives taken by the Reserve Bank, Securities & Exchange Board of India and Government of India, the corporate bond market is still a long way to go in providing adequate financing to the infrastructure sector in India.

6.2.6 Insufficiency of User Charges: It is a well known fact that a large part of the infrastructure sector in India (especially irrigation, water supply, urban sanitation, and state road transport) is not amenable to commercialisation for various reasons, such as, regulatory, political and legal constraints in the real sector. Due to this, Government is not in a position to levy sufficient user charges on these services. The insufficiency of user charges on infrastructure projects negatively

affect the servicing of the infrastructure loans. Generally, such loans are taken on a non-recourse basis and are highly dependent on cash flows. Hence, levy and collection of appropriate user charges becomes essential for financial viability of projects.

6.2.7 Legal and Procedural Issues: Infrastructure development involves long gestation periods, and also many legal and procedural issues. The problems related to infrastructure development range from those relating to land acquisition for the infrastructure project to environmental clearances for the project. Many a times there are legal issues involved in it and these increase procedural delays. .

6.3 Measures Taken by the Central Government

***6.3.1 Public-Private Partnership Projects in Infrastructure*:** The Government started encouraging Public-Private Partnership (PPP) projects in the infrastructure sector.

6.3.2 Setting up of various Committees to Simplify the Procedures: Recently Government has set up many committees to facilitate more private funding into the infrastructure sector. These include Committee on Infrastructure, Cabinet Committee on Infrastructure, PPP Appraisal Committee and Empowered Committee among others.

6.3.3 Viability Gap Funding: Viability gap funding was introduced in 2006, which provides Central Government grants up to 20 per cent of the total capital cost to PPP projects undertaken by any central ministry, state government, statutory entity, or local body. The scheme aimed at providing upfront capital grant to PPP projects to enable financing of commercially unviable projects.

6.3.4 Foreign Direct Investment and Infrastructure Development: To facilitate infrastructure financing 100 per cent FDI is allowed under the automatic route in some of the sectors such as mining, power, civil aviation sector, construction and development projects, industrial parks, petroleum and natural gas sector, telecommunications and special economic zones. Further, FDI is also allowed through the Government approval route in some sectors such as civil aviation sector, Existing airports ,investing companies in infrastructure/services sector (except telecom); Petroleum and Natural Gas sector – refining PSU companies; Telecommunications etc.

6.3.5 Setting up of India Infrastructure Finance Company Limited (IIFCL): Another major development was the setting up of IIFCL by the Central Government for providing long-term loans to the infrastructure projects. IIFCL is involved both in direct lending to project companies and refinancing of banks and other financial institutions. IIFCL can provide funds to the infrastructure project up to 20 per cent of the total project cost as long-term debt.

6.3.6 Setting up of Infrastructure Debt Funds: In the Union Budget for 2011-12, the Union Finance Minister announced the setting up of Infrastructure Debt Funds

(IDFs) to accelerate the flow of long-term funds to the infrastructure projects.

6.3.7 Tapping the retail investor base through Infrastructure Bonds: To provide further impetus to infrastructure financing, Government of India has permitted IFCI, IDFC, LIC and infrastructure finance firms to issue long-term infrastructure bonds providing for tax benefit of up to Rs.20,000 in the year of investment, under the Income Tax Act.

6.3.8 Corporate Bond Market: Reserve Bank has issued guidelines on repo in corporate bonds to make the market more active. To ensure smooth settlement in the secondary market, RBI has permitted clearing houses of the exchanges to have a funds account with RBI to facilitate Delivery versus Payments (DvP-I) based settlement of trades. Primary dealers have been permitted higher exposure limits for corporate to enable better market making. In fact, as a result of these measures, trading volumes in corporate bonds have increased many-fold from Rs.1,45,828 crore in 2008-09 to Rs.5,98,604 crore in 2010-11(RBI Bulletin-2011).

7. Suggestions

7.1 Making the Infrastructure Project Commercially Viable: This is the first and foremost thing we should do for financing infrastructure in a sustainable manner.

7.2 Greater Participation of State Governments: In a federal country like India, participation and support of the State governments is essential for developing high quality infrastructure. The State governments' support in maintenance of law and order, land acquisition, rehabilitation and settlement of displaced persons, shifting of utilities, and obtaining environmental clearances are necessary for the projects undertaken by the Central Government or the private sector..

7.3 Improving efficiency of the Corporate Bond Market: As has been noted, vibrant corporate bond market will reduce the dependence on the banking sector for funds. Further, coordinated regulatory initiatives could be considered in the areas involving standardization of stamp duties on corporate bonds across the states, encouraging public issuance and bringing in institutional investors in a big way. It is also important to broad base the investor base by bringing in new classes of institutional investors (like insurance companies, pension funds, provident funds, etc.) apart from banks into this market

7.4 Credit Enhancement: One of the major obstacles in attracting foreign debt capital for infrastructure is the sovereign credit rating ceiling. Domestic investors are also inhibited due to high level of credit risk perception, particularly in the absence of sound

bankruptcy framework. A credit enhancement mechanism can possibly bridge the rating cap between the investment norms, risk perceptions and actual ratings. Ideally, the credit enhancement should not be provided by the banks as they are already over-exposed to the sector.

7.5 Simplification of Procedures – Enabling Single Window Clearance: It is well recognized that while funding is the major problem for infrastructure financing, there are other issues which aggravate the problems of raising funds. These include legal disputes regarding land acquisition, delay in getting other clearances (leading to time and cost overruns) and linkages (e.g. coal, power, water, etc.) among others. It is felt that in respect of mega-projects, beyond certain cut-off point, single window clearance approach could cut down the implementation period. Once we solve these peripheral but critical issues with regard to an infrastructure project, it will greatly facilitate flow of funds to the projects and help in maintaining asset quality to the comfort of the lenders.

We also need to develop new financial markets for municipal bonds to enable infrastructure financing at the grass root levels. We need to create depth, liquidity and vibrancy in the G-Sec and corporate bond market so as to enable raising of finance and reduce dependence on the banking system. At the same time, there is a need to widen our investor base and offer adequate risk mitigating financial products, such as, CDS. Market players should also actively participate in such markets after the products have been introduced. A Working Group has been set up by the Reserve Bank recently to examine the issues and recommend measures to further improve the depth and breadth of the G-Sec market. A vibrant G-Sec market would facilitate growth of the corporate debt market. We also need to revisit the existing provisions of stamp duty governed by separate State Government Acts in respect of corporate bond transactions.

8. Conclusion

In conclusion, it is worth to mention that infrastructure projects in developing countries like India are perceived as highly vulnerable to risks which constrains financing. Some of the notable risks that need to be reckoned are risks arising during the period of construction leading to time and cost over-runs, operational risks, market risks, interest rate risks, foreign exchange risks, payment risks, regulatory risks and political risks. At times, in the absence of proper risk mitigation mechanism, the costs of the projects tend to increase and such high level of risks cannot be traded off against high returns. The aim of the policy makers should be to reduce perceived risks by introducing greater policy clarity and, at the same time providing an environment that will reassure investors.

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