Funding Mechanism adopted for Public Private Partnership (PPP) Infrastructure projects in India

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Abstract **- This Paper focuses on the funding mechanism adopted in area of financing of Public Private Partnership Projects (PPP) infrastructure projects in India. Infrastructure being Growth driver, it is highly needed that there are a lot of studies focusing on the same, but that is not the case for PPP Projects in India. Public-private partnerships (PPPs) are a tool that help governments leverage the expertise and efficiency of the private sector, raise capital, and spur development. They also help allocate risk across the public and private sectors to where it can best be managed and ensure that resources are wisely distributed in addressing the most urgent development needs. IFC's advice in PPPs is helping national and municipal governments in developing countries partner with the private sector to improve access to education, energy, transport, healthcare, and sanitation. Thus, the researcher has focused on various studies across the globe on Public Private Partnership (PPP) infrastructure financing and developed the path for further research. This paper is a stepping stone towards a huge and untapped area for research. The research has focussed on various resources of financing & existing challenges and shortlisted important among them and has highlighted and concluded upon the research gap in this area.**

keywords **- PPP,Infrastructure sector, Construction Development, Economy ,Concession Period (CP), Net Present Value, Operation Time, Investment Capital Cost**

INTRODUCTION

Infrastructure sector is important driver for the Indian economic growth. The sector is highly accountable for propelling India's economic growth and enjoys intense focus from Government for initiating policies that would ensure in a phased manner establishment of creation of world class infrastructure in the country. Infrastructure sector includes Highways, Power, bridges, and urban infrastructure development. India has been ranked as the 58th most competitive economy on the World Economic Forum's global competitiveness index for 2018, which was

topped by the US. India's rank rose by five places from 2017.
The present Market Size for foreign Direct Investment (FDI) received in Construction Development sector (townships, housing, built up infrastructure and construction development projects) from April 2000 to December 2018 stood at US$ 24.91 billion, according to the Department of Industrial Policy and Promotion (DIPP). The logistics sector in India is growing at a CAGR of 10.48 per cent annually and is expected to reach US$ 216 billion in 2020.
India has a requirement of investment worth Rs 50 trillion (US$ 777.73 billion) in infrastructure by 2022 to have sustainable development in the country. India is witnessing significant interest from international investors in the infrastructure space. Some key investments in the sector are listed below:

1.0 KEY INVESTMENTS IN THE SECTOR:

In 2018, infrastructure sector in India witnessed private equity and venture capital investments worth US$ 1.97 billion. In June 2018, the Asian Infrastructure Investment Bank (AIIB) has announced US$ 200 million investment into the National Investment & Infrastructure Fund (NIIF). Indian infrastructure sector witnessed 91 M&A deals worth US$ 5.4 billion in 2017

1.1 Government Initiatives:

The Government of India is expected to invest highly in the infrastructure sector, mainly highways, renewable energy and urban transport. The Government of India is taking every possible initiative to boost the infrastructure sector. As per the announcements in Union Budget 2019-20; the Government of India has given a massive push to the infrastructure sector by allocating Rs 4.56 lakh crore (US$ 63.20 billion) for the sector. Communication sector has been allocated Rs 38,637.46 crore (US$ 5.36 billion) to development of post and telecommunications departments.
The Indian Railways has received allocation under Union Budget 2019-20 at Rs 66.77 billion (US$ 9.25 billion). Out of this allocation, Rs 64.587 billion (US$ 8.95 billion) is capital expenditure. Rs 83,015.97 crore (US$11.51 billion) has been allocated towards road transport and highway. Rs 3,899.9 crore (US$ 540.53 billion) has been allocated to increase capacity of Green Energy Corridor Project along with wind and solar power projects. Allocation of Rs 8,350.00 crore (US$ 1.16 billion) to boost telecom infrastructure. Water supply to be provided to all households in 500 cities. Allocation of Rs 888.00 crore (US$ 110.88 million) for the upgradation of state government medical colleges (PG seats) at the district hospitals and Rs 1,361.00 crore (US$ 188.63 million) for government medical colleges (UG seats) and government health institutions.

1.2 Infrastructure Sector in India:

The large infrastructure spend program had been envisaged in the 12th five-year plan, which emphasizes the need for timely and appropriate means of financing when addressing infrastructure development with finite funding resources. Infrastructure developers struggle regularly with the delicate balance and competing requirements of project delivery and project finance. At times, one of these priorities may be compromised for the sake of the other. Banks alone cannot meet the future financing requirements of the infrastructure sector and hence new innovative financing structures and avenues of raising capital should arise. The government, realizing this need, has decided to allow private firms to enter into the arena of financing huge infrastructure projects, like roads airports etc. The Government has realized the importance of more public-private partnerships or PPP to bridge the gap between demand and supply and their role in accelerating infrastructure development in the country.

1.21. Projected investment requirement for PPP infrastructure in India :

The Projected Investment requirement for PPP (Public Private Partnership) in India is pegged at USD 64 billion for the next 5 years (FY 2019-2020). The following table illustrates the debt financing requirement from Banks & other FII'S.

Projected investment requirement for PPP infrastructure in India USD 64 billion	
Estimated Government Grant – 5%	USD 3.20 billion
Investment requirement without grant	USD 60.80billion
Debt Requirement - 80%* (DER 4:1)	USD 48.60 billion
Banks maximum lending capacity	USD (12.9+6.70) 19.60 billion (40.4%)
Further requirement of debt financing from other sources	USD 29.00 billion (* 80% is just one scenario, but is a very likely one.)

If the projected investment requirement for PPP infrastructure in India (USD 64 billion) in the next five years (FY Year 2019-2024) actually happens the contribution of commercial banks to PPP debt funding, which is currently around 80%, is likely to reduce drastically to a more likely figure of 40% (the maximum capacity deduced above is 19.6 billion which is 40.4% of USD 64 billion).

On one hand issues of asset liability mismatch generated by long term lending to infrastructure projects as also to other retail sectors is leading RBI to advocate increased caution in lending to infrastructure projects. On the other hand, group exposure norms, unless changed, are likely to make banks unable to lend to the large developers. The impending implementation of the Basel II norms will mean that the banks will have to significantly increase their risk weighting capital for lending long term. Within the ambit of current RBI policies and implementation of Basel II norms commercial banks' lending to PPP infrastructure is unlikely to increase beyond the limit (~USD 19.60 billion) deduced above.

Financial institutions that are a major source of finance for PPP infrastructure also may not be able to meet the gap. We have therefore, tried to look at their potential to lend to PPP infrastructure and arrive at a gap that will have to be financed by other sources like bonds, foreign banks etc.

1.22 PPP Debt Financing Through Other Financial Institutions

The requirement of debt financing from other sources is to the tune of USD 29 billion. These other sources may include financial institutions like IIFCL, IDFC, PFC and IRFC. We have therefore, on the basis of some assumptions, estimated the approximate amount of debt funding that may be available from these four institutions as some of these financial institutions will be able to meet the USD 29 billion requirement.

1.23 Debt Funding From IIFCL

In the past, apart from commercial banks, other financial institutions such as IDFC and IIFCL were also debt financiers, though their share was not quite high. Going forward, Government of Infrastructure Public-Private Partnership (PPP) Financing in India Draft Final Report September 2007, India's policy is to make large amount of funds available to IIFCL and enable it to raise even more fund more from the international market. Therefore, IIFCL is likely to play a more significant role in PPP infrastructure lending.

However, IIFCL's exposure is currently limited to 20% of the total debt financing requirement in a project. Assuming the same contribution for the future PPP project, and assuming that IIFCL is able to raise the amount as well as able to deploy the entire amount into credit IIFCL's portion can go up to about USD 10 billion over the next 5 years (20% of debt requirement for PPP computed at 80% of project costs after reducing 5% grants). Incidentally, this is not very different from about USD 2.2 billion per year that GOI may guarantee for IIFCL to raise resources.

1.24 PPP Lending Capacity of Commercial Banks to Power PPP

In order to derive the ratio of private sector power projects lending to overall lending to power projects by banks we have taken our assumption on the basis of two reports - "Report of the Committee on Financing of Power Sector During the 10th and the 11th Plan" (also called the Kohli Committee report) and "Report of Working Group on Power for 11th Plan" which states the private sector lending out of total banks' lending to power projects as below- Private sector lending out of total Banks' lending to power projects is 23.70 USD Billion.

S.No.	Category of Projects and Funding	Quantum of Finance (In USD $ billions)
01.	State Power Projects	08.30
02.	Central Power Projects	13.00
03.	Private Power Projects	02.40
04.	Banks & FII'S	23.70

As per the reports, banks & AIFIs are expected to lend USD 2.4 billion (10% of their total lending) to power projects for private sectors. However, we have assumed the credit from commercial banks to private sector to be around 15% due to faster conceptualisation and implementation of projects by them compared to State and Central projects.

For the ratio of 15%, the projections of PPP infrastructure lending capacity of banks to power sector are as presented below-

Funding requirements In USD billions						
S. No.	Scenario (% Increase)	2015	2016	2017	2018	2019
01.	20%	0.70	0.84	1.01	1.21	1.45
02..	25%	0.73	0.91	1.14	1.42	1.78
03.	30%	0.76	0.98	1.27	1.65	2.15

On the basis of the above computation, total PPP lending capacity of commercial banks towards Power sector over the next 5 years under different scenarios has been shown above in the table illustrated above. The maximum capacity of commercial banks to lend towards Power PPP would be around USD 6.7 billion in next five years. Further requirement of debt financing from other sources considering the investment requirement for PPP infrastructure at around USD64 billion over this period, commercial banks will not be able to meet the debt funding requirement.

1.25 THE DIFFERENT MODELS OF PPP:

Providing public infrastructure and services by Government in partnership with private sector requires a long-term arrangement between Government and private sector entity for provision of public utilities and services.

PPP mechanism is a major element of India's establishment of infrastructure efforts as there is huge level of investment requirement in the sector. India has a huge need for investment in mega-infrastructure, estimated to the tune of Rs 43.06 trillion or about $646 billion over the next 5 years. Conventional form of finance – the budgetary allocation by the government is not enough to meet this big investment size. So, the government at present is making several efforts to modify and strategize the PPP (Public Private Partnership) mode of infrastructure creation. A committee chaired by Kelkar also made important recommendations to empower the PPP mechanism.

India's experience with PPP in a planned manner started from 2006 onwards. PPP requires private sector participation in public asset creation through money, technology and management. For this, several models inviting their participation were launched for different projects. Some of the commonly adopted forms of PPPs include build-operate-transfer (BOT) and its variants, build-lease-transfer (BLT), design-build-operate-transfer (DBFOT), operate-maintain-transfer (OMT), etc.

These models operate on different conditions on the private sector regarding level of investment, ownership control, risk sharing, technical collaboration, duration of the project, financing mode, tax treatment, management of cash flows etc. Following are the main models of PPPs.

(a) Build Operate and Transfer (BOT): It is the simple and conventional PPP model where the private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector. Role of the private sector partner is to bring the finance for the project and take the responsibility to construct and maintain it. In return, the public sector will allow it to collect revenue from the users. The national highway projects contracted out by NHAI under PPP mode is a major example for the BOT model.

(b) Build-Own-Operate (BOO): This is a variant of the BOT and the difference is that the ownership of the newly built facility will rest with the private party here.

The public sector partner agrees to 'purchase' the goods and services produced by the project on mutually agreed terms and conditions.

(c) Build-Own-Operate-Transfer (BOOT): This is also on the lines of BOT. After the negotiated period of time, the infrastructure asset is transferred to the government or to the private operator. This approach has been used for the development of highways and ports.
(d) Build-Operate-Lease-Transfer (BOLT): In this approach, the government gives a concession to a private entity to build a facility (and possibly design it as well), own the facility, lease the facility to the public sector and then at the end of the lease period transfer the ownership of the facility to the government.
(e) Lease-Develop-Operate (LDO): Here, the government or the public sector entity retains ownership of the newly created infrastructure facility and receives payments in terms of a lease agreement with the private promoter. This approach is mostly followed in the development of airport facilities.
(f) Rehabilitate-Operate-Transfer (ROT): Under this approach, the governments/local bodies allow private promoters to rehabilitate and operate a facility during a concession period. After the concession period, the project is transferred back to governments/local bodies.
(g) DBFO (Design, Build, Finance and Operate): In this model, the private party assumes the entire responsibility for the design, construction, finance, and operate the project for the period of concession.
(h) The private party assumes the entire responsibility for the design, construct, finance, and operate or operate and maintain the project for the period of concession.
(i) Management contract: Here, the private promoter has the responsibility for a full range of investment, operation and maintenance functions. He has the authority to make daily management decisions under a profit-sharing or fixed-fee arrangement.
(j) Service contract: This approach is less focused than the management contract. In this approach, the private promoter performs a particular operational or maintenance function for a fee over a specified period of time.

1.26 SOURCES AND METHODS OF FINANCING:

DOMESTIC SOURCES	**EXTERNAL SOURCES**
Equity	
• Domestic developers (independently or in collaboration with international developers) • Public utilities (taking minority holdings) ,other institutional investors (likely to be very limited)	• International developers (independently or in collaboration With domestic developers) • Equipment suppliers (in collaboration with domestic or international developers) • Dedicated infrastructure funds • Other international equity investors • Multilateral agencies (International Finance Corporation, Asian Development Bank)
Debt	
• Domestic commercial banks (3-5 years) • Domestic term lending institutions (7-10) Years • Domestic bond markets (7-10 years) • Specialized infrastructure financing Institutions	• International commercial banks (7-10 years) • Export credit agencies (7-10 years) • International bond markets (10-30 • years) • Multilateral agencies (15-20 years) • Bilateral aid agencies

1.27 Conclusion: Financing sources for Public private Partnership (PPP) Projects infrastructure:
Foreign sponsors may often be keen to connect up with domestic investors at this stage on the grounds that this will reduce political risk. Domestic investors tend to evaluate risk less conservatively than foreign investors, and their involvement often helps to improve the perceptions of foreign investors.
Well-structured projects can expect to mobilize equity from international infrastructure funds specializing in investment in infrastructure projects. The Global Power Fund, which has a target of $1 billion, is an example of an infrastructure fund aimed at financing power projects in emerging markets. The AIG Asian Infrastructure Fund, which will invest $1 billion in the Asia-Pacific region, and the $750 million Asian Infrastructure Fund are few other examples of regional infrastructure funds. The amounts available through these funds remain modest relative to the total requirement, but the pool of global capital they can tap is very large, and the flow of equity from this source could increase substantially if bankable projects become available and the track record of implementation improves. An important aspect of these funds is that they allow international investors to pool risks by investing in a mix of projects. They also enable institutional investors, who are relatively risk averse, to invest in infrastructure projects after the construction stage, when project risks are much lower. This provides valuable opportunities for "take-out" financing, enabling projects to be financed through the earlier and riskier stage by much larger involvement of equity from the sponsors or by high-cost debt, with a subsequent restructuring through attraction of equity from infrastructure funds through sale of sponsors' equity or refinancing of debt with equity.

A limited amount of equity support for private sector infrastructure is also available from multilateral organizations, such as the International Finance Corporation and the private sector window of the Asian Development Bank. Although these funds can provide only a small amount of capital, their participation in a project provides comfort to other investors.
The scope for raising equity from domestic capital markets is probably limited. Public utilities and domestic institutional investors may be willing to contribute part of the equity for project expansion, but significant domestic equity support may not be forthcoming for new infrastructure projects until there is a track record of performance. However, once project implementation proceeds and revenue generation begin through partial commissioning, it may be possible to tap a wider range of equity investors. This can be a useful financing strategy in the case of power projects with more than one generating unit or in telecommunications projects, in which the build-up of line capacity occurs over time.

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