Chapter 16
Infrastructure Financing in India: At the Crossroads

Bishnu Prasad Mishra

Abstract The spectrum of financing infrastructure in India ranged from complete budgetary support to extensive fund raising in the private space including frantic effort to internationalize the funding Channels. The necessary regulatory changes for varied sources and varied instruments used have culminated over the years in a dynamic construct of funding avenues. The infrastructure engagement over the past years have yielded valuable lessons about project design and appraisal, poverty focus, private sector participation, environmental and social sustainability, the issue of corruption and stakeholders communication apart from supportive funding sources. The experiment of new sources of funding has some extent succeeded in certain cases and some has also floundered to meet the specific needs of the infrastructure. However, it is high time to strengthen the sources where considerable success has been achieved and reappraise the risk and potent deterrent/road blocks where the result has somewhat not up to the expected level. In short, the infrastructure funding space currently looks hazy and badly in need of a relook, if all the announced policy goals have the slender chance of meeting with success in days to come.

Keywords Infrastructure finance · Infra-asset funding · Public private participation

16.1 Introduction

Infrastructure sector is a key driver for the Indian economy. The sector is responsible for propelling India's overall development and enjoys intense focus from the Government for initiating policies that would ensure time-bound creation of world class infrastructure in the country. Infrastructure sector includes Transport of all forms, Energy and Power, Municipal solid waste management, water and waste

B. P. Mishra (✉)
XIMB, Xavier University Bhubaneshwar, Bhubaneshwar 751013, Odisha, India
e-mail: bishnu@ximb.ac.in

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water management; social infrastructure and Information and Communication Technology (ICT) development. The infrastructure engagement over the past years have yielded valuable lessons about project design and appraisal, poverty focus, private sector participation, environmental and social sustainability, the issues of corruption and stakeholder communication.

MGI (Mckinsey Global Institute 2016) estimates that infrastructure typically has a socio-economic rate of return of around 20%. In other words, one rupee of infrastructure investment can raise GDP by approximately 20 paise in the long run. These economic effects stem mostly from making a given region more productive through means such as reduced travel time and costs, access to reliable electricity, and broadband connectivity that allows individuals and businesses to plug into the digital global economy. Some infrastructure investments, if well-chosen and well executed, can have benefit-cost ratios of up to 20:1. In addition to the long-term productivity benefits, infrastructure construction immediately creates jobs. Analysis suggests that in the shorter term, increasing infrastructure investment by one percentage point of GDP (Gross Domestic Product) could generate an additional 3.4 million direct and indirect jobs in India.

This paper is structured as follows. The next section presents an over view of infrastructure funding in Indian context. Then the importance of private capital and capital market role in India till date has been reviewed. Next, the assessment is made as regards what can be done to meet the investors need and the complexities of infra asset funding with regard to facilities in terms regulation, market access, funds flow and institutional arrangements. The concluding remarks relates to the options available to be guided for challenging task of reconciling private incentive and government policy for infrastructure asset funding.

16.2 Overview of Infrastructure Funding

16.2.1 Nature of Infrastructure Funding

There is a compelling Indian need for greater infrastructure investment. Well-functioning infrastructure is critical to driving sustainable long-term economic growth. In many countries, it is becoming more challenging to meet funding requirements from traditional sources. Private investors express concerns about regulatory uncertainty, which increases both the risk profile of infrastructure investments and the cost of providing private capital to help fund public infrastructure, despite their long-term strategic interest in infrastructure as an asset class.

Financing a public infrastructure megaproject is highly complex, with multiple financing instruments, various economic and social factors, as well as a range of stakeholders with different and sometimes, conflicting objectives to consider (Henn et al. 2015). Policymakers now recognize that the choice of financing approach not

only influences the future stream of financing costs and contingent liabilities that society is burdened with, but also impacts the eventual success of projects. The selection of financing instruments for infrastructure megaprojects also has significant broader economic impacts and unintended consequences, such as the imposition of debt ceilings, credit rating downgrades, infrastructure deficits, and even economic growth (Checherita-Westphal and Rother 2012; Henn et al. 2015).

16.2.2 Funding Paradigm in India

There are four primary pillars of infrastructure funding, namely Governments and other public authorities (ii) Multilateral Institutions (iii) Bank lending and (iv) Capital markets (both domestic as well as international). In recent years, the first two, which are the more traditional pillars of funding, have reduced the amount of capital available to commit to infrastructure investments, though they remain important players.

While most of the earlier infrastructure spending was state funded in India, the Government evinced strong interest in infrastructure only towards the end of the last century. Few designated institutions like IDBI, ICICI, IIBI, and IFCI etc. were created to cater to long term funding of selected category of projects, as decided by the government in power. There were large amount of resource allocation, either from budget sources or through concessional funding. These came to an end due to budgetary constraints and the strong belief that concessional funding for project lending must stop. As a result, these institutions became paralyzed and defunct. For survival, some converted themselves to commercial Banks, while others met with closure.

To fill up the vacuum and to support infrastructure funding in long term, Infrastructure Development and Finance Corporation (IDFC) and India Infrastructure Finance Company Limited (IIFCL) was created in 1997 and 2006 respectively. IDFC's conversion to a Bank was inevitable and the track record of IIFCL did not much reflect its effective role in facilitating infrastructure spending. Hence, Government-led institutions were found to be lacking in fulfilling their intended role and thus, became non-starters.

16.2.3 Multilateral Institutional Funding

Multilateral agencies have played a crucial role in the Indian infrastructure development process. International engagement was quite supportive through the years. World Bank funding, in particular, helped considerably in infrastructure growth, (occasionally even going beyond the country limit). The channelizing agency is

IIFCL which liberally finances PPP projects through funds lent by World Bank. IFC contribution is, however, small. Since 1956, IFC has invested in about 346 companies in India, providing USD 10.3 billion financing from its own account and USD 2.9 billion in mobilization from external resources. From Asian Development Bank (ADB), India has got a cumulative lending grant and cumulative assistance in infrastructure space about USD 27 billion (Dr. H. R. Khan, DG, RBI, Aug 12, 2015). The proposed New Development bank (NDB), popularly known as BRICS Bank, and the Asian Infrastructure Development bank (AIDB) is yet to be fully functional, though it raises great hope to support infrastructure funding as stated in their objectives. However, Foreign Direct Investment (FDI) received in Construction Development sector (townships, housing, built up infrastructure and construction development projects) from April 2000 to March 2017 stood at USD 24.3 billion, according to the Department of Industrial Policy and Promotion (DIPP, July, 2017).

16.2.4 Bank Lending

As infrastructure need was scaled up, Public Sector banks were asked to fund these projects. They had the limitation of insufficient capacity to evaluate these types of projects, particularly debt on the basis of Cash-flow vis-a-vis collateralized ones and structural asset-liability mismatch. Governments from 2000 onwards and the RBI (Reserve Bank of India) encouraged commercial Banking participation in Infrastructure funding. The former by actively pursuing PPP as mode of project execution and later making regulatory changes both accommodating and facilitating Commercial Banks participation in such ventures. The RBI particularly extended numerous concessions and relaxations such as: Raising Group/Individual borrower limit, Guarantee Issuance favoring other lending institutions, asset classification benefits in restructuring guidelines, conditional funding of promoters equity, financing registered SPVs set up for Infra projects and so on.

As a result, the bulk of infrastructure credit came from commercial banking space-major portion being from PSBs. In contrast, private banks were not that interested, except when colluding with large corporates to fund unviable big projects. The rapid scaling up reflects a 39% compound annual growth rate (CAGR) of outstanding bank credit to infrastructure in 15 years (2000–2015) or 104 times (RBI, Deputy Governor N. S. Vishwanatha, November 2016). Percentage share of Infrastructure bank credit rose from 1.6% of Gross bank credit to 13.4% over 2001–2013 (Speech by K. C. Chakrabarty, DG, RBI, August 9, 2013), in spite of the strict exposure norms pursued by the central bank.

Bank loans have some key advantages over bonds or other structured financing solutions in the initial phase of an infrastructure project: (I) Debt holders serve an important monitoring role in the project and banks tend to have the necessary

expertise. (II) Infra projects need a gradual disbursement of funds and bank loans are sufficiently flexible. (III) Infra projects are relatively more likely to require debt restructuring in unforeseen events and banks can quickly negotiate restructurings among each other (Ehlers 2014). The jump in NPA level by Indian banks after RBI Asset Quality Review in 2015 (AQR) and the damaging account of loan failures will certainly take a toll on infra financing by these banks. There has been an over-concentration of long-dated infrastructure-related project finance exposure on the Indian banking system rather than it being diversified across banks, bond markets, pension funds and insurance companies. Secondly, banks may have mispriced these loans in the absence of any market-traded credit benchmarks. Cheap long-term loans have the least financial incentive to be paid back. In the "Financial Stability Report" (FSR-17), the RBI has said five sectors—Infrastructure, Steel, Textiles, and Power and Telecom—have contributed to more than 60% of present banking sector stress.

16.2.5 Take-Out Financing by Banks/NBFCs

Takeout financing is a route of refinance wherein new lenders take over project loans of existing lenders and thereby, stretch the loan's repayment over a longer period. Through this route, existing lenders get relief on their capital to pursue new lending opportunities and infrastructure projects get the benefit of a longer repayment period. It allows financing long-term projects with medium-term funds. Despite the obvious advantage, the mechanism has not really emerged as a game changer because this model does not envisage equitable distribution of risk and returns. In this case, the banks bear the initial credit and liquidity risk from the date of inception. Thereafter, the moment the project is economically viable, taking out the loan from book of the banks amounts to loss of opportunity of earning returns on seasoned loans.

RBI allowed non-banking finance companies (NBFCs) to provide takeout financing of projects; an option which was so far available to only banks with the sole purpose to create a level playing field for NBFCs. In a Notification (June 2016), the central bank said. "NBFCs may refinance any existing infrastructure and other project loans by way of take-out financing, without a pre-determined agreement with other lenders, and fix a longer repayment period". The RBI said that refinancing through this route would not be considered as restructured if the loans are classified as standard in the books of all other existing lenders to the project and has not been restructured in the past. Finding such asset is well-nigh impossible in the present context when the banks are in stress for their past lending decisions, mostly in Infrastructure sector.

16.3 The Indian Capital Market and Infrastructure Funding

16.3.1 The Need for Private Capital

The financing requirements are so large that a fundamental shift will be needed in how infrastructure projects are financed in India, where the public sector has, historically, covered over 90% of needs. While banks remain the dominant lenders to infrastructure projects, capital markets investors are starting to make significant inroads into the marketplace.

The deleveraging and shrinking of many banks' balance sheets—together with changes in banks' lending policies as a result of regulations (including the Basel III requirements for increased bank capital and liquidity)—have led most of the banks in India to reduce project finance lending commitments. At the same time, capital market investors such as insurers, specialist fund managers, pension funds and sovereign wealth funds have increased their capacity to invest in project bonds and equity. Insurance companies and pension funds are, in fact, 'natural' investors in infrastructure assets, since the long maturity and fixed rate nature of project bonds are a good match to their long-term liabilities. The different source of funding by a private entity can be summarized as in Table 16.1.

However, private financing is not straightforward and can come across as a multidimensional investment universe; different investors tend to assess the risks and returns of capital-intensive infrastructure investments differently. Infrastructure,

Table 16.1 Sources of funding of infrastructure

	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 (5–7 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

Source Ahuliwalia (1999)

as an asset class, provides for portfolio diversification and the potential for stable cash yields. It should therefore, in theory, appear as an attractive investment alternative for institutional investors (pension funds, sovereign wealth funds, insurance companies, etc.) that generally have long-term liabilities and low risk appetites. In reality however, the uptake of the expansive asset class has historically been limited.

"Most institutional investors continue to look for defensive diversification from their infrastructure allocations. In an Asian infrastructure project context, this necessitates effective structuring and risk transfer to high quality counterparties along with feasible options for managing currency exposures." (Toby Buscombe, Partner and Global Head of Infrastructure, Mercer Private Market National Investment and Infrastructure Fund (NIIF) Hong Kong).

For example, infrastructure asset allocation in 2014 only accounted for 0.8% of the USD 50 trillion managed by institutional investors globally. In order to increase institutional investor's commitments to infrastructure asset class, it is important to understand the different investment behaviors and preferences of different investor classes—ranging from duration to return expectations and to type of investment grades.

16.3.2 Indian Capital Market and Infrastructure Funding

However, over a period of time, Indian capital markets, increasingly supported by liberal policies by sector regulators, demonstrated a high level of flexibility for fund raising by Indian corporates as the following table shows year wise project executed by Indian companies (Table 16.2).

Table 16.2 Project commissioned by India Inc.

Year	Rupees in crore
2005–06	109,000
2006–07	191,000
2007–08	224,000
2008–09	305,000
2009–10	393,000
2010–11	347,000
2011–12	412,000
2012–13	366,000
2013–14	329,000
2014–15	397,000
2015–16	458,000

Source CMIE (2018)

Table 16.3 IPOs in the Indian market

Year	No. of IPOs	Amount raised	Top sector	Share(%)
2007	100	34,179	Real estate	38
2008	37	16,904	Power	80
2009	20	19,544	Power	60
2010	64	37,535	Mining	40
2011	37	5966	Financials	55
2012	11	6835	Telecom	61
2013	3	1284	Power	62
2014	5	1201	Infra	27
2015	21	13,614	Aviation	20
2016	26	26,494	Financials	29
2017	54	80,853	Financials	50

Source Prime Data base

To support these projects, Initial Public offers (IPOs) were floated in Indian Capital Market by corporates which were heavily subscribed. Table 16.3 details the share of infrastructure IPO's in total fund-raising efforts over a decade.

In the spectrum of domestic capital market, a lot of flexibility has been provided by the RBI as well as SEBI to increase corporate access to the market for directly mobilizing funds. In this process, new avenues are being opened up with newer instruments so that the funding need of infrastructure can be met. The primary goal is to develop and strengthen the Bond/Debt market so that eligible corporates can have unfettered access to funds directly from varied types of investors, both domestic and external.

16.3.3 Regulatory Facilitation and Instruments for Infra-funding

The form of investment can affect its appeal to investors due to regulatory or commercial restrictions contained in their mandates, regarding for example, listing, credit ratings and security. Project bonds can either be listed on a stock exchange, or issued on an unlisted basis. Listing and public credit ratings have the advantage of potentially expanding a transaction's investor base and enhancing liquidity, but at the cost of requiring the issuer (which may be the project company, or a sister company which issues the bonds and on-lends the proceeds to the project company) to comply with various listing-related regulations and information requirements. That said, this may be seen as an advantage, as the transaction then benefits from the confirmation that the disclosure has complied with the relevant listing rules or rating agency requirements. A 'public' transaction is almost always likely to require

a listing and a credit rating, while a privately placed transaction can be listed or unlisted. While a public credit rating is often preferred, it may not always be required.

Masala Bonds are rupee denominated bonds with their coupon rates to be serviced in rupee as well, thereby, bearing no liability in foreign currency. The currency risk is, thus, transferred to investor rather than borrower. Recent Indian issues of Masala Bonds are most innovative financial products bearing their origination to IFC's first Rupee Bond raised internationally in September 2015. Thereafter, various Indian corporates and institutions like HDFC, NTPC and NHAI have further raised around Rs. 12,770/- crore by means of Masala Bonds. Companies have to explore every possibility of using this rupee borrowing option from global investors for bringing cost effective debt fund into India.

Green Bonds typically represents funds raised by the Clean Energy companies from domestic and international investors. Typically, the global climate change and climate control funds as also CSR funds seeking Green (Clean) Energy as a mission destination and generating some returns alongside are clearly allowing the interest tag for Green Bonds. Recent issuances by EXIM Bank, YES Bank and Renew Power are all beads in the same golden thread. The low cost of fund helps achieve lower tariff, thus resulting in a win-win situation for all the stakeholders. Globally, total green bonds issuance stood at USD 21.76 billion during the first quarter of 2017, up nearly 42% from the issuance during the same period last year—according to the Climate Bonds Initiative.

Credit Enhancement has remained as one of the most unique financial products for infrastructure projects seeking access to global money. For example, the Monoline Insurer's stellar role of guaranteeing infrastructure projects in USA and Europe for mobilizing funds from investors is a case in point. The guaranteed support of stronger national and international institutions provided for a fee to any company (which could typically be rated say around BBB or A, A-) would be able to get a rating of around AAA. This shall enable it to seek global money from long term Pension, Sovereign and Insurance Funds (which could otherwise not be able to invest in their lower rated bonds), thus creating a market place enviable for good companies. ShriArunJaitely, Finance Minister in Budget for 2016–17 announced that "A dedicated fund to provide credit enhancement to infrastructure projects will be set up. The fund will help in raising the credit rating of bonds floated by infrastructure companies and facilitate investments from long term investors. As follow up measure, a company named "Indian Infrastructure Company Limited (IIFCL)", having 20% stake in the SPV for credit enhancement purpose is already registered with an initial corpus of INR 500 crore.

Role of InvITs and ReITs InvIT is an acronym for Infrastructure Investment Trust and ReIT is for Real Estate Investment Trust. It represents a Trust, registered with SEBI, formed with an objective to invest in infrastructure/Real Estate projects directly or through their SPVs. It has the potential of emerging as one of the

strongest innovative financial products, allowing the unlocking of not only Equity but also Debt. The investment mechanism facilitates capital infusion into the infrastructure/Real Estate sector by providing small sums of money from investors to infrastructure developer to monetize his assets and complete projects that sometimes get stalled mid-way due to lack of funding. This may provide stable cash-flow to Insurance and Mutual Fund entities, given the exemption from dividend distribution tax. In order to restrict the banks in investing, the RBI said banks should not invest more than 10% of the unit capital of a real estate investment trust (ReIT) or an infrastructure investment trust (InvIT), subject to overall ceiling of 20% of its net worth.

There is a debate on whether an InvIT, by its nature of investment, is equity or debt as it has features of both. It is somewhere in between; loosely, debt-plus or equity-minus in terms of risk return profile. The equity-like features are that the units are listed, can change hands like equity stocks; there is periodic valuation of the projects akin to periodic results of companies and economic factors like higher GDP growth or higher inflation would lead to expectation of higher revenue and hence higher price of the units at the Exchange. The debt-like feature is the periodic pay-out of the earnings of the InvIT from the underlying SPVs, which is not exactly like contractual coupon pay-out on bonds but somewhat comparable, as the valuation gives a perspective on how much to expect. It is a hybrid instrument with a somewhat predictable cash flow yield (akin to debt) and potential appreciation with growth of the economy (akin to equity).

Taxation wise, an InvIT is a pass-through vehicle. There is a mandate to distribute at least 90% of net-distributable cash flows. Interest component of income distributed by trust to the unit holders would attract withholding tax @ 10% for resident unit holders. Interest income is taxable in the hands of the unit holder. Dividend income is exempt in the hands of the unit holder and there is no dividend distribution tax.

InvITs have created deleveraging of the balance sheets of infrastructure companies. InvITs are also unlocking equity and causing a return of debt funds borrowed from the bankers. This has not only resulted in healthy situation for banks but also creating capacity for fresh borrowing by infrastructure companies for new projects. Six (6) InvITs have been conceptualized. Two InvITs(India Grid Trust and IRB InvIT Fund) have already raised money aggregating to around INR 7000 Cr. (approx.) from the market and got listed.

Despite attractive yields, InvITs gathered very few fan followers in the secondary market. The first two listed InvITs are currently trading below their respective issue price. What is more, the issuers continue to add more assets in the hope of incentivizing investors. Recently, India Grid Trust, which owns transmission assets, added three new transmission assets valued at INR 1490 crore taking the current AUM (asset under management) to INR 5300 crore. The idea of adding assets at subsequent stages is to improve the overall yields. While companies are adding yield-accretive assets to perk up the overall yield, investors are still not much enthusiastic. Both the listed InvITs offer a yield of about 12%, which is about

526 basis points higher than the 10-year government Gsec yields and 440 basis points higher compared to an "AA" rated three-year corporate bond. Apart from the awareness, what is causing the damage is a perception about the uncertainty of yield. While the yields are calculated more scientifically and independently, they suffer from the estimates and assumptions made for the next 15–20 years. *Transferring assets into the existing portfolio will solve the problems of the parent companies as it will be able to reduce debt. But given the uncertainty of the cash flows, whether InvIT investors make money still needs to be seen.* Cash flow may get impacted based on the revenues and profitability of these assets. But, as pension and insurance monies look for long-dated investments backed by stable cash flow characteristics over time, positive response to this instrument is expected to emerge, giving sponsors a greater diversity of financing sources. But ReIT is yet to take off in the Indian capital market. The Private Equity industry under alternative Investment Fund (AIF), which grew 55% in FY 17, contributed 19% of VC/PE inflows as per the Prequin Report (2017).

16.4 Indian Infra-funding: An Assessment

16.4.1 Infra Asset Delivery so Far

A lot depends on the Government Regulatory framework designed for infrastructure services and the resultant asset structure created thereof. The quality and volume of infrastructure has a positive effect on the attractiveness, competitiveness, sustainability and economic growth. In case of India, the demand for infrastructure investments continue to focus on primary care and utilities, in particular, in the nature of Green field projects. Most of the Brown field Infrastructure facilities must be operated, serviced, maintained, modernized, and adjusted to meet current requirements. Funding for the development and operation of such projects in India has largely been financed with the assistance of development subsidies and multi-lateral sponsor organizations, from budgetary support etc., where private investors rarely got involved up to the last century.

However, when the Government started implementing the mode of delivery of infra services through Public-Private Partnership (PPP) model of different variants, the things changed radically in favor of the private funding initiatives. PPP means an arrangement between Government, statutory entity, or government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or public services, through investment being made and/or management being undertaken by the private sector entity, for a specific period of time, where there is well-defined allocation of risk between the private sector and the public entity, the private entity being chosen on the basis of open competitive bidding receives performance linked payments that conform(or are benchmarked) to specified and pre-determined performance standards and measurable by the public entity or its representative (Public Private Partnership Monitor—ADB 2017).

Table 16.4 Projects granted final approval under VGF Scheme, from Dec 2005 to Aug 2017, as of 19 Sep, 2017

S.No.	Sector	No. of projects	Total project cost (INR crores)	VGF approved (INR crores)
1	Bridge	2	2096	396
2	Metro	1	12,132	1458
3	Power	3	925	162
4	Roads	48	18,595	3537
5	Silos	6	177	15
6	Water supply and sanitation	1	188	38
Total		61	34,113	5606

Source www.pppinindia.gov.in

From the perspective of the number and overall value of projects, India has emerged as one of the major PPP markets. During the period 1990–2016, a total count of 861 projects, with investment worth USD 314 billion, were made in almost all sectors, including Transportation (Roads, Ports, Air-ports and Railways),Energy (Power, Oil and Gas) and Urban Utilities as well as Social sectors. In fact, a lot of projects have got support via "Viability Gap funding" (VGF) from the central Government, as the data shown in Table 16.4.

16.4.2 Investors' Need in Infrastructure Assets

Infrastructure assets offer a wide variety of risk-return cash profiles, theoretically ranging from highly conservative bond/fixed income-style asset profiles through to investment opportunities that are comparable to private equity. Most financing methods employ various financing instruments to ensure an optimal structure. How sponsors or procurement authorities choose the most efficient financing depends on a variety of factors. Deciding whether a bank loan, a debt private placement or a project bond finance in the capital markets is more attractive for a specific project depends on factors such as:

- The size, complexity and the type of the transaction;
- Bank and capital market conditions at the relevant time;
- Issuance and Swap costs;
- The need for special terms such as any non-standard covenants;
- The time available for the marketing and preparation of financial documentation;
- Strategic considerations, such as investor diversification and public visibility;
- Whether staged drawdowns of funds are available and if not, the expected costs of negative carry.

In contrast, all investors in infrastructure generally share certain financial goals (May not form a homogeneous group) and their individual interests may differ when it comes to investing in infrastructure assets. In addition to differing risk-return profiles reflected in selection of certain countries, sectors, stages of entry, currencies and the like, the targeted cash flow profiles, which are most closely linked to the investors investment horizon for such assets, may differ as well (Barbara et al. 2016).

For debt-financed infrastructure assets, Project bankability in emerging markets has been a key concern for investors in infrastructure for many years. Marsh and McLennan Companies' Asia Pacific Risk Center estimates (2017) that between 55 and 65% of projects in Asia are not bankable without support from Government or Multilateral Development Banks. A project is considered to be highly bankable, if it conforms to the following benchmarks:

- Appropriate covenants and funding structure (Potential approval and preparation process enhancements)
- Thorough due diligence
- Proper documentation and deal structure
- Well-structured concession rights
- Presence of legal and economic recourse
- Robust rights to payment
- Ensuring appropriate risk transfer.

"We need to understand why people go through the hassle of doing due diligence, pricing deals, creating covenants and negotiating rights of ways. This is because they need to quantify risk, manage their capital, and ensure efficiency. They are looking for ways to expand the velocity of capital in this sector." (Eric Pascal, Partner, Oliver Wyman, 2014).

16.4.3 The Step Forward

Indian regulatory environment is yet to converge with the fiscal concessions extended by the Government for attracting Infrastructure investments and flexibility shown by SEBI in facilitating and broad basing the infrastructure funding instruments as well as investor profile. However, as pointed out in the recent evaluation report of ADB (2017), the support extended by the Indian Government has to be further enhanced. A few samples are listed below.

(a) With a view to enhance transparency in PPP projects, the Department of Economic Affairs (DEA) proposes setting up of a dedicated dispute resolution mechanism to address issues related to bidding and award of PPP projects. However, this is yet to be implemented.
(b) The approach for Government guarantees varies between central and state sectors. In case of central sectors PPP projects, Government guarantees are part

of risk—mitigation strategy adopted on a project-specific basis and are not defined explicitly.

(c) The Rail Development authority—an entity, as announced in the Railway budget 2016–17 to facilitate fixing of various user charges and to speed up proposed PPP projects, is yet to be established.

(d) In the rail sector, the Central Project Review Board (CPRB) is almost non-functional when the proposed investment is huge (20 projects involving investment of INR 1.4 lakh crore).

(e) Privatization is on full force in the Port sector, but the excess labour issues and related efficiency of labour force are not taken rightly in the absence of data.

(f) Multiple approval agencies are involved in the Aviation sector.

When making infrastructure investments, there are two types of investor class: primarily yield-driven or IRR-driven investors. Yield-driven investors tend to look for a stable, long-term income in order to match the maturities of their assets with the maturities of their liabilities. These include insurance companies, private and corporate pension funds, Sovereign wealth funds, charitable foundations etc. They usually have a buy-and-hold investment horizon for long term and satisfied with the current yield in the form of dividends or interest.

IRR-driven investors have a short to medium-term horizon of approximately two to seven years (an early exit). Such investors include the resale value of the asset at the exit into their return calculation and prepared to forego early and/or current cash flows during the asset holding period. This category of investors includes strategic investors, investment funds managed by professionals as well as institutional investors with similar short-term focus. As a matter of principle, the exit strategies have to be arranged for such investors—sale via the secondary market, a trade sale or an IPO.

Keeping aside the return part in Infrastructure projects, an external investor has to deal with Country level and Project level risks. A key contribution of risk management principle is to allow the bundling and unbundling of various risks to align risk exposures with the ability to bear them. There are three kinds of large scale institutions—MNCs, large commercial banks and multilateral financial institutions (that are capable of generating information and exerting leverage by diversifying their holding)—that are best to bear both the risks. The portfolio investors are strongly advantaged in terms of their ability to diversify country risk, but not the project risk. Hence, their role in the funding space comes when the project cash-flow is stable and project risks are minimized to the extent possible to make it attractive in risk-return spectrum.

The inherent challenges of infrastructure finance call for new types of financing instruments. Infrastructure equity or debt investors face two simultaneous issues: (i) long-term commitments of financial resources to an investment which is typically not liquid, and (ii) an inherent difficulty to price the associated long-term risks. Traditional financing instruments, such as direct equity stakes or bank loans, force investors to deal with these two problems at the same time. In addition, there is a natural tendency for investors to turn to more liquid and short-term instruments in

periods of high market uncertainty ("short-termism"). But financial innovation can counter the "short-termism" of investors (Landau 2013).

Financial instruments can help to separate liquidity risks and the pricing of long-term risks. Bonds or infrastructure funds render infrastructure investments tradable, and therefore, help to increase their liquidity. Greater securitization activity for infrastructure loans seems also desirable, as this can help banks to diversify their risks and alleviate large bulk risks of a single project, which are so difficult to quantify. New financial instruments which allow separation of liquidity risks and long-term credit risks would help improve the attractiveness of long-term financing.

Moving beyond the currently prevalent financing instruments of direct equity investments and bank loans has further advantages. As argued above, it can make infrastructure, as an asset class, more accessible to a broader group of investors. In this light, it helps to diversify the large risks of infrastructure projects across many groups of investors. In addition, the vast resources of capital market, which are currently hardly tapped by infrastructure projects, are much more accessible with a broader mix of financial instruments. Infrastructure bonds and infrastructure funds carry a high potential; and other financial instruments, such as collateralized infrastructure loans, for instance, do also attract substantial investor demand. Finally, there also exist other financial instruments that allow a better diversification of risks. This is highly desirable, as infrastructure risks are currently shouldered to a large extent by the banking sector and the public sector through guarantees (Ehlers 2014).

Countries in the emerging markets that want to meet their required investment needs over the next decade and beyond, will have to attract funds from global institutional investors. Till date, they have generally been wary of infrastructure investment in these markets. Innovative ideas to unlock new sources of funding are urgently needed. A good example is the dual-purpose MART storm water tunnel in Kuala Lumpur, Malaysia. In order to generate a return on a major capital investment and attract investors, the central section of the tunnel doubles up as a toll motor way (when it's not raining of course), thus, providing flood protection and alleviating traffic congestion. The world has to find 'smarter' ways like this to manage risks and bridge the substantive funding gap. In reality, however, global investors have global alternatives, and infrastructure projects across much of Asia rarely rank as the most attractive option to deploy capital on a risk adjusted basis—there is simply too much risk and uncertainty over investment returns. The problem is not that these projects represent an acceptable level of return, but are simply beaten by even higher returns in other asset classes elsewhere.

No country presents an ideal combination of circumstances and experience shows that there are many ways of solving problems that constrain such investment—ways that differ from project to project and country to country. Financial markets show great scope for innovation in tailoring financing solutions to financing needs. Policies need to be flexible to allow such innovation to flourish (Ahuliwalia 1999).

16.5 Conclusion

The OECD estimates that USD 70 trillion in infrastructure investment is needed by 2030 to simply maintain the current levels of global GDP growth. Private capital can help bridge the shortfall in infrastructure funding. To promote a greater role for private capital in infrastructure projects, policy makers need to craft a policy framework for infrastructure investing tailored to investors' needs. The infrastructure financing gap is not new, but it continues to grow rapidly. Given this overall boom, it is no surprise that the Asian Development Bank forecasts that the region requires USD 26 trillion of investment in infrastructure over the period 2016–2030. However, this expected demand is tempered by a reality in which there are significant uncertainties over where the money to fund this development will come from. The main reason is that the preconditions for private financing of infrastructure are more difficult to establish than is commonly realized.

India, rightly to date, followed the funding mosaic by graduating from full budgetary support, further led by bank funding through PPP mechanism resulting in islands of successful infrastructure delivery. The much hope for "Sagarmala", "Bharatmala" and other schemes announced for infrastructure sector will only come to fruition, if the Government changes its goal to transit from PPP to PFI (Privately Funded Infrastructure projects) mode. It will help in two ways—The Government Effort will be more concentrated in creating facilitative regulation and Independent Regulators will look after sectorial implementation. Secondly, the direct financing burden will pass on to the private market participants and banks will engage themselves with commercial lending which is their forte.

Encouraging capital markets investment in infrastructure has the potential to bridge the world's infrastructure funding gap, including that of India. A holistic and consistent policy framework is necessary to incentivize greater private capital investment in infrastructure. This framework should provide certainty, transparency, an alignment of public and private interests, and a stable and consistent tax and regulatory environment. Striking the appropriate balance between public policy and investor needs will certainly facilitate and promote greater private infrastructure investment.

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