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INDIA

# Funding the Infrastructure Investment Gap

**An analysis by Deloitte Touche Tohmatsu India Private Limited**
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# Contents

# Foreword

The way India responds to meeting the Infrastructure Financing needs is likely to define the growth trajectory for its GDP growth as well as its relative growth in the region as well as world economy

The domestic Infrastructure funding and finance is in a period of flux. On both sides of the equation — supply and demand — there are positive and negative influences resulting from the economic slowdown as well as credit scarcity. While demand remains strong from the users of finance, suppliers have traditionally gravitated towards 'quality' projects with little to differentiate. Lack of depth in the financing market, lack of innovation in financial instruments, slow development of alternate sources of finance as well as project quality have continued to remain the top Industry challenges over the last decade. Uncertainty in the credit markets is impacting the ability of infrastructure developers to raise finance for infrastructure projects and undermining confidence in private finance models. These ongoing liquidity issues are likely to increase financing costs associated with certain delivery models.

How these influences will settle out over time remains to be seen, but it is clear that meeting infrastructure financing needs would remain a top agenda item for most stakeholders, more so in the coming years.

Given these dynamics, the sheer volume of financing needs gives enough cause to indicate that innovative and sustainable financing means could positively impact the pace of change in a big way.

In this Report, 'Funding the Infrastructure Investment Gap' we start with an overview on our recent economic performance followed by an analysis of the Plan projections and provide an analysis of the likely sources of funding as well as some innovative funding options that need to be explored and developed. The emphasis on Public Private Partnerships or P3 and the capital and project development efficiencies that it could bring in cannot be undermined given the huge pressure on capital rationing and funding requirements. As a part of this Report, we also share our perspective on the topics selected for panel discussions – emerging financing options as well as key trends relevant for infrastructure companies.

We hope you find this report worthwhile.

**Deepak Haria**
Senior Director and Financial Services Leader
19 March 2013

# Introduction

While Infrastructure development has always on the top agenda for India, considering the current global economic dynamics as well as domestic growth imperatives, it has emerged as one of the single largest imperative which could seriously compromise the economic growth trajectory.

The Indian Economy is currently going through a challenging phase as GDP growth has slowed down to nearly a decade low in 2012-13. Most projections envisage a slow build up to the 8-10% GDP growth. Infrastructure spend is likely to have a positive spiral effect to the GDP growth and is likely to be one of the main lever to unleash India's economic growth potential.

There have been short term considerations; including growth slowdown coupled with other macroeconomic issues such as high public expenditure, depleting investment and saving levels, worsening current account balance as well as depreciation of the Rupee; that have overshadowed the recent policy directions.

In the second half of the fiscal, the Government has proactively intervened with phased reforms to stabilize the economy. Measures have been taken to reduce subsidies (oil, fertilizers) which would in turn lower the fiscal deficit. The Government has also taken concrete actions to attract foreign direct investment (FDI) and strengthen the rupee. However, the success of these policy reforms is expected to be gradual. Consistent implementation during the coming years as well as additional reforms to address other macroeconomic imbalances such as current account deficit scenario, prevailing supply side constraints, and inadequate infrastructure investments will dictate the pace of recovery in near term.

In face of a perceivably weak macroeconomic climate, a well-planned economic revival policy is required to steer the Indian Economy back on the growth path. Even though the long term prospects of the economy look promising, cautious optimism is the tone in the short to medium term.

The focus needs to be back on Infrastructure Development and Financing which remains secular challenge for the economy.

One of the key concerns which remain is the adequacy of investment in infrastructure development. Infrastructure has been one of the key priority areas for the nation and the government has increased infrastructure spend at a rapid pace since the 11th plan. However, the increase in India's GDP in recent years has put tremendous pressure on its inadequate infrastructure. Though there has been a tremendous growth in demand of roads, power, ports etc, India's infrastructure development hasn't been able to keep pace with its economic growth.

Addressing the nation's infrastructure needs, especially with today's intense economic pressures, will require government and industry stakeholders to find more efficient and effective ways to finance and deliver capital projects while controlling costs. The large infrastructure spend program as envisaged by the twelfth five year plan emphasizes the need for timely and appropriate means of financing when addressing infrastructure development with finite funding resources. Infrastructure developers wrestle daily 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. How do we deliver projects on aggressive schedules yet within the financing covenants? Can we distribute funds quickly enough and still maintain cost controls?

The capital scarcity has emphasized the need to financial innovation. With enormous public infrastructure finance needs, and available funding scarcer, every capital rupee needs to be spent more efficiently and effectively.

Considering India's growth and government focus on infrastructure development, all infrastructure sectors including power, roads, railways, ports and airports are also scheduled for massive capacity expansion. There are opportunities for all the stakeholders like developers, financial institutions and suppliers in this process. India needs to double its infrastructure spending to ~10% of its GDP to achieve 9%+ GDP growth which further requires new funding sources.

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 issue infrastructure bonds, which should attract investments from big pension funds and other cash-rich firms

The Government has realized the importance of more public-private partnerships or P3 to bridge the gap between demand and supply and their role in accelerating infrastructure development in the country. India's infrastructure development should get a big boost with more government impetus and greater public-private participation in infrastructure projects.

Over the past decade, several PPP models have been developed to meet the growing need to spend billions of rupees to create roads and bridges, airports, and other utilities, to create a viable alternative to increase access to private capital as a welcome complement to traditional infrastructure financing.

This paper focuses on issues and challenges associated with Infrastructure Funding and the potential interventions to accelerate private sector funding in infrastructure.

The fast growth of the economy in recent years has placed increasing stress on physical infrastructure such as electricity, railways, roads, ports, airports, irrigation, water supply and sanitation, all of which already suffer from substantial deficit in terms of capacities as well as efficiencies. The pattern of inclusive growth averaging 9 percent per year can be achieved only if this infrastructure deficit is overcome and adequate investment takes place to support higher growth and an improved quality of life for both urban and rural communities.

Source: Interim Report of High Level Committee on Financing Infrastructure, August 2012

# Message from the Desk of Secretary General, ASSOCHAM

During this critical juncture when we as an emerging economy aspiring to break into the league of economic super powers, infrastructure development continues to be a challenging . Globally it has been recognized that investment in infrastructure has a multiplier effect on different sectors of the economy. Our 12th five-year Plan envisages infra-funding of US $ 1 trillion which looks ambitious. For a country like India inclusive growth cannot be over looked which needs to have 7% to 8% GDP growth on a sustained basis at least for a decade as a solution to various economic woes.

Keeping this in mind ASSOCHAM in partnership with Deloitte has come out with a background paper to generate healthy discussion on issues & challenges that need to be effectively addressed for sustainable infrastructure development in the country. This paper exhaustively deals with the challenges while addressing the gaps that persist in this prominent segment.
We firmly believe that this would be a very good reference book for all the stake holders. We acknowledge the efforts made by Deloitte Team and ASSOCHAM Team in bringing out this well researched paper. Any suggestions / comments are welcome.

**D. S. Rawat**
Secretary General
ASSOCHAM

New Delhi
19th March, 2013

# Macro-economic view

Performances of advanced economies continue to weigh on India's growth story. The IMF, in its update of World Economic Outlook, lowered the world GDP growth projections by 0.1% each for 2013 & 2014 as compared to the October 2012 projections.

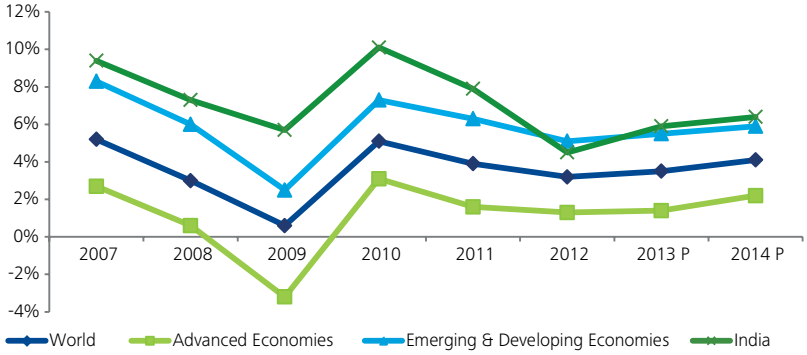
In Indian environment, the current state of the economy makes it necessary for the government to put in place a robust and implementable plan of action for its revival. The economy has experienced a consistent fall in the quarterly GDP growth since the beginning of 2011, alarmingly high levels of twin deficits viz. Current Account Deficit (CAD) and fiscal deficit as well as worrying volatility in the inflow of foreign investments. Though inflationary pressure has receded in the last quarter of 2012, it still remains above the target level of Reserve Bank of India (RBI). This along with other worrying economic indicators has put the Indian economy in a challenging pathway in the short term.

Budget 2013 provides an opportunity to regain focus by adhering to the path of fiscal consolidation and take appropriate policy initiatives outlining the timely recovery of the Indian economy. Strengthening fundamentals and boosting growth inducing investments is the foremost consideration at this stage.

The declining trend in the GDP growth is proving to be another major concern for the government at the moment. After a disappointing growth rate of 5.4% in the first half of 2012-13, the yearly estimates for 2012-13 have been downgraded and it is now expected to grow at only around 5%. The country's GDP growth at 5.3% in the second quarter is one of its lowest quarterly growth rates in the last decade and annual growth of 5% will be the lowest since 2002-03.

A larger concern exists on the services sector which has moderated during 2012. With "trade, hotels, transport, storage and communication" an important sub-sector in services performing the worst, various indicators of services sector activities such as cargo handling, civil aviation & railway freight etc. suggest further weakening of growth.

**Exhibit 1: Global economic (GDP) growth**




Source - IMF Report

Additionally, the uncertain global outlook is likely to affect services exports adversely. On the GDP expenditure side, growth in private consumption has moderated during 2012-13 due to high inflation coupled with low income growth. While investments have remained flat on account of issues such as project cost overruns and regulatory delays, gross capital formation has also decreased in the economy. Sectors such as road transport and highway, power, petroleum, railways, coal etc. continue to suffer due to lack of policy clearances and more importantly funds. It may take a while before the impact of retail sector reforms and policy initiatives to remove infrastructure bottlenecks and induce further investments are felt across the economy. However, there are early signs that the Indian economy may have bottomed out the growth.

Overall, besides domestic pressures, with global recovery likely to remain muted in the near future, economic revival in India will be a challenge. All round efforts in removing impediments in business activity and instilling investor confidence will be necessary to revive sectoral growth.

**Highlights: Union Budget 2013-14 and its impact on Banking and Financial Services Sector**

## Banking

- Provision of Rs. 14,000 crores for capitalization of Public Sector Banks in 2013-14
- Interest subvention scheme (short term crop loans at 4%) extended to private sector banks
- Proposal to set up India's first Women's Bank as a public sector bank by October 2013 and provision of Rs. 1,000 crores as initial capital
- All branches of public sector banks to have ATM by March 2014.
- Provision of Rs. 532 crores to set up core banking and real time banking services at post offices by 2013-14

## Housing Finance

- First home loan up to Rs. 25 lakh will receive an additional Rs. 1 lakh interest deduction during the financial year 2013-14
- Proposal for setting-up of a Urban Housing Fund by National Housing Bank for Rs. 2,000 crores
- Enhancement of provisions under the Rural Housing Fund from Rs. 4,000 crores to Rs.6,000 crores

## Infrastructure

- Proposed allocation of Rs. 51 lakh crores towards infrastructure investment during the 12th Plan period with ~47% expected to come from the private sector
- New IDF launched to tap the overseas markets for long term pension and insurance funds, for financing infrastructure projects. Four IDFs have been registered with SEBI out of which two of them were launched in the month of February, 2013
- Rs. 50,000 crores target for the tax free bonds for financing infrastructure projects in 2013-14, which is less than the amount (Rs. 60,000 crores) assigned in the previous year
- India Infrastructure Finance Corporation Ltd (IIFCL), in partnership with the Asian Development Bank, will offer credit enhancement to infrastructure companies that wish to access the bond market to tap long term funds
- To encourage investment, companies would be given investment allowance for projects of Rs 100 crores or above between April 1, 2014 and March 31, 2015. The companies would be allowed to deduct 15% of the investment in addition to the normal depreciation rates
- Proposal to raise corpus of Rural Infrastructure Development Fund (RIDF) to Rs. 20,000 crores
- Cabinet Committee on Investment (CCI) has been set up to monitor and review infrastructure projects

## Insurance

- Insurance companies will be empowered to open branches in tier II cities without prior IRDA approval
- Rashtriya Swasthya Bima Yojana to be extended to other categories such as rickshaw, auto-rickshaw and taxi drivers, sanitation workers, rag pickers and mine workers
- KYC of banks will be sufficient to acquire insurance policies
- Banks will be permitted to act as insurance brokers

## Capital Market

- Liberalization of Rajiv Gandhi Equity Savings Scheme (RGESS) to enable the first time investor to invest in mutual funds and listed shares over three successive years. The income limit was raised from Rs. 10,00,000 to Rs. 12,00,000
- Foreign investors with less than 10% stake in a particular stock will be considered as FII, and more than 10% stake as FDI
- Proposal to amend the SEBI Act, to strengthen the regulator, under consideration
- SEBI will simplify the procedures and prescribe uniform registration and other norms for entry for foreign portfolio investors
- FIIs will be permitted to participate in the exchange traded currency derivative segment to the extent of their Indian rupee exposure in India
- Stock exchanges to be allowed to introduce a dedicated debt segment on the exchange

## Micro, Small and Medium Enterprises

- Enhancement of the refinancing capability of Small Industries Development Bank of India (SIDBI) from the current level of Rs. 5,000 crores to Rs.10,000 crores
- SIDBI to set up a Rs.500 crores corpus for Credit Guarantee Fund for factoring
- Benefits or preferences enjoyed by MSME to continue upto three years after they grow out of this category
- Small and medium companies to be allowed to listed on MSME exchange without making a public offer

Source- Budget 2013

The Annual Budget for 2013-14 has stayed away from being a populist budget despite upcoming elections next year. The Government intends to continue with the momentum of reforms announced in the recent past. While the pace of reforms may not be at what the markets hoped for, we may consider the budget to be a balanced one. For the financial services industry too, the budget is balanced and geared towards inclusive growth.

Further capitalization of public sector banks, reforms in the capital markets, improved financing for the infrastructure sector will all help in creating the capital pool to fund economic growth. The budget has made a concentrated effort to improve access to finance and housing as well as introduced fresh policies such as the inception of a women's bank, farm finance through private sector banks and set up of an Urban Housing Fund. This is a balanced budget because it tries to address the problem of high fiscal deficit while ensuring an increase in public spending.

# Infrastructure Investment
## Current Landscape

The Government of India realizes the importance of accelerating the investments in infrastructure to boost the country's slowing economy. Therefore, it has set a massive target for doubling investment in infrastructure from Rs. 27 lakh crores (eleventh plan – 2011/12 prices) to Rs 51 lakh crores during the twelfth plan period, i.e., 2012–2017.The share of infrastructure investment in GDP is panned to be increased to more than 10% by the end of the twelfth plan. This investment, if it materializes, can propel India's economic growth to a higher trajectory.

It was not so long ago that infrastructure investment in India was financed almost entirely by the public sector—from government budgetary allocations and internal resources of public sector infrastructure companies.

However lately, the private sector has emerged as a significant player in bringing in investment and building and operating infrastructure assets from roads to ports and airports and to network industries such as telecom and power. Private investment now constitutes almost 40% per cent of infrastructure investment. In these times of tight fiscal environment, private sector will need to play a greater role without which infrastructure development will not meet the growing demand and could fall far behind the requirements.

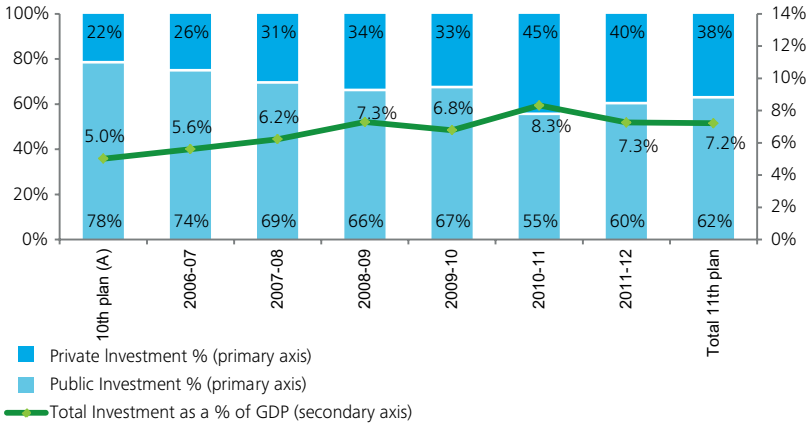
The pace of growth envisaged at 9 percent by planning commission can be achieved only if the infrastructure deficit is overcome and adequate investments are made. It is critical to bridge the gap between planned infrastructure spend and delivery.

# Infrastructure investment in eleventh plan: Overview

In eleventh plan, a total investment of Rs. 27 lakh crores (eleventh plan – 2011/12 prices) was made towards infrastructure development. This investment at 7.22 percent of GDP (average) represents a significant shift from 5.02 percent of GDP (average) invested during tenth plan.[1]

This sharp increase in total infrastructure investment was largely due to the rapid rise in investment by the private sector especially in power and telecommunications. (70% of the private sector investment was made in power and telecommunications.)

**Exhibit 2: Total infrastructure investment breakup into public and private investment - 11th Five Year Plan (Actuals)**



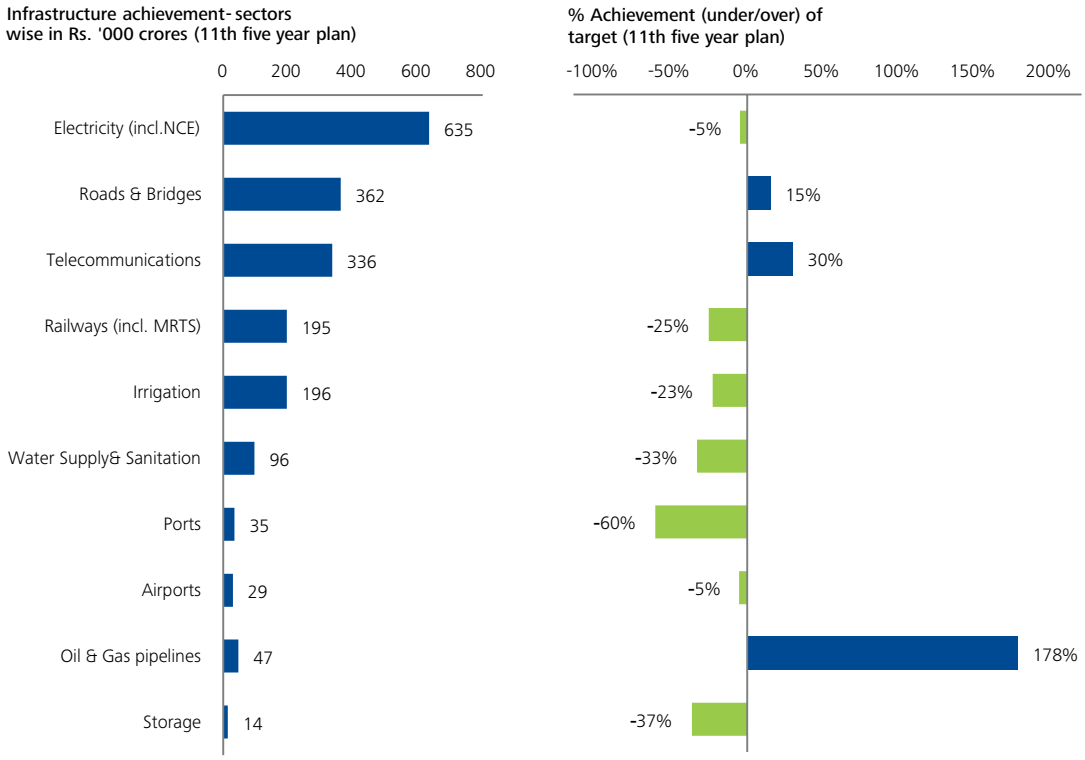

Source - Interim report of the High Level Committee (Planning Commission) - Aug 2012

[1] Interim report of the High Level Committee (Planning Commission) - Aug 2012

During eleventh plan, substantial private investment in telecom helped this sector over-achieve whereas a good mix of private and government funding gave oil & gas sector a massive push resulting in significant over-achievement against targets. Power sector also saw a significant investment from private sector.

Ports, railways, storage and water supply sectors lagged behind in development and didn't meet their investment targets. There may be a greater need to enable private funding for these sectors to meet investment targets for next five year plan.

**Exhibit 3: Total infrastructure investment achieved across sectors for the eleventh five year plan**

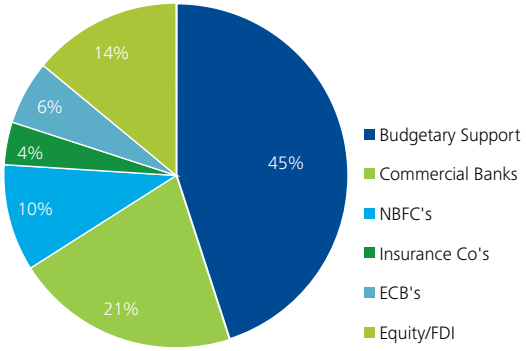



Source - Interim report of the High Level Committee (Planning Commission) - Aug 2012

# Sources of infrastructure investment in India

In first 3 years of eleventh plan, budgetary support constituted ~45 per cent of the total infrastructure spending. The debt from Commercial banks, NBFCs, Insurance Companies and the external sources constituted ~41 per cent of the funding while the balance 14 per cent was funded through Equity and FDI.

**Exhibit 4: Sources of funding for infrastructure investment**




Source - Working sub group on infrastructure, planning commission

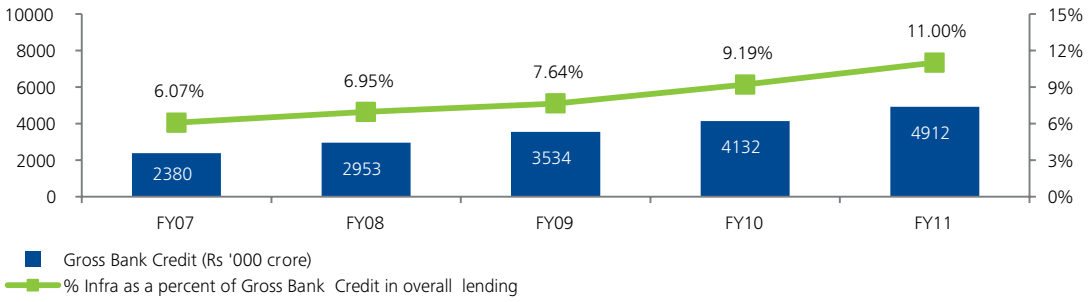
| Type | Domestic Sources | External Sources |
|---|---|---|
| Equity | Domestic investors | Foreign investors |
| | Public Utilities | Equipment suppliers ( in collaboration with domestic or international developers) |
| | Dedicated Government Funds | Dedicated infrastructure funds |
| | Institutional investors | Other international equity investors |
| Debt | Domestic Commercial banks ( 3 - 5 year tenor) | International Commercial banks ( 7-10 year tenor) |
| | Domestic term lending institutions ( 7 -10 year tenor) | Export credit agencies ( 7 -10 year tenor) |
| | Domestic bond markets ( 7 - 10 year tenor) | International Bond markets ( 10 - 30 year tenor) |
| | Specialized infrastructure financing options such as infrastructure debt funds | Multilateral agencies ( With more than 20 year tenor) |

Sources of private funding:

## Banks

There has been a rapid growth in bank credit to infrastructure projects with banks contributing to the tune of 21% of the total investment during first 3 years of 11th five year plan.[1] Most of this funding has been provided by Public Sector banks and in some cases the sectoral prudential caps have almost been reached (especially for power sector) thus constraining any further lending to these sectors. Banks have prudential exposure caps for infrastructure sector lending as a whole as well as for individual sectors.

**Exhibit 5: Banks lending towards infrastructure investment**

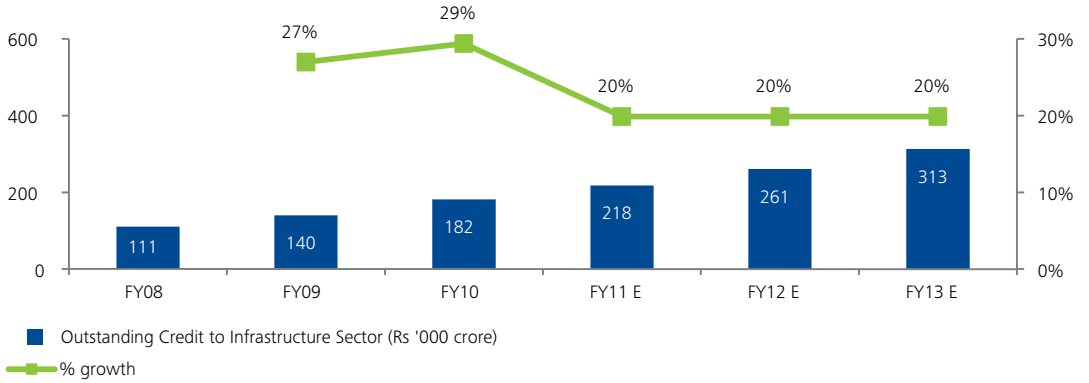



Source - Working sub group on infrastructure

## Non banking financial companies (NBFCs)

Over the eleventh plan period, NBFCs lending increased sharply primarily due to higher demand from power, telecom and roads sectors. Two major NBFCs, PFC and REC together constituted ~ 80 per cent of the lending by NBFCs.[1]

**Exhibit 6: Growth registered by NBFCs towards infrastructure investment and NBFCs lending (actual and expected)**



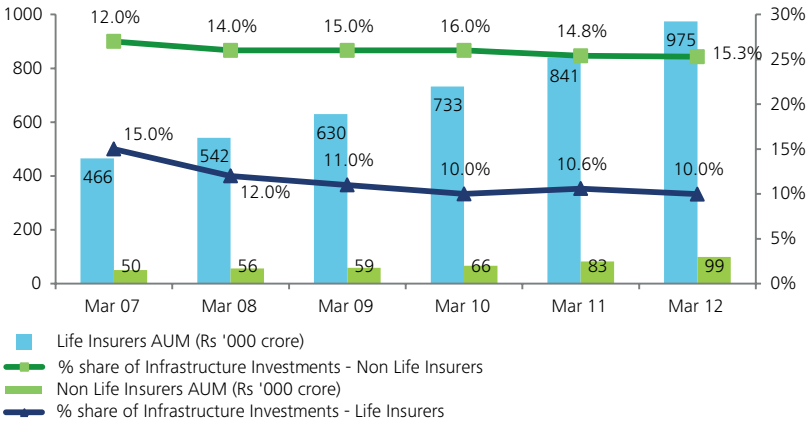

Source - Working sub group on infrastructure

[1] Working sub group on infrastructure for 12th year plan

## Life insurance Companies

Life insurance companies are required to invest at least 15% of their Life Fund in infrastructure and housing. Investment by insurance companies in 2012 has only been 10% of insurance life fund AUM which indicates further potential to utilize insurance companies to fund infrastructure development. Moreover insurance penetration is estimated to continue to rise, with the insurance premium expected to grow from the current approximate 4% of GDP to 6.4% of GDP by the end of the twelfth plan.[1] This will generate further potential for infrastructure funding however it will be subject to management of prudential and regulatory constraints in the sector.

**Exhibit 7: Infrastructure investment as a percentage of life fund and non- life fund**

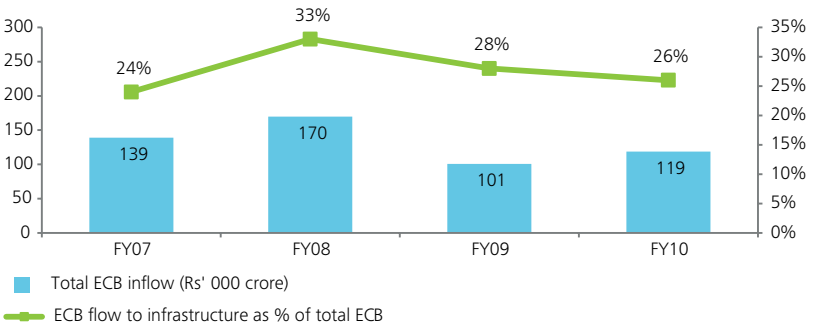



Source - Working sub group on infrastructure, Planning Commission

## External commercial borrowings (ECB's)

The share of ECB in total infrastructure investments has been recording a decline. This could be a reflection of the way regulatory environment is viewed by the international investors. They are not keen on making long term investments in environments which have regulatory idiosyncrasies. Under-developed financial markets/products may have also contributed to this drop in ECB funding.

**Exhibit 8: Share of ECBs in total infrastructure investment**




Source- Working sub group on infrastructure, planning commission

## Equity

A large part of equity investments relies on foreign investments with domestic investment institutions not showing significant interest in taking equity in Infrastructure projects. The equity investment for the twelfth plan period is estimated to be Rs 4.56 lakh crores[1]

[1] RBI publications, working sub group on infrastructure for 12th five year plan

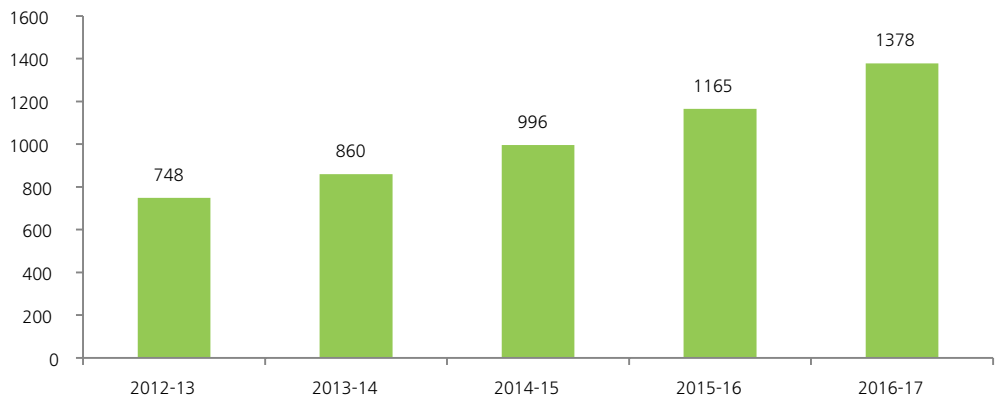
# Projections for the twelfth plan period

Planning commission is targeting an investment of 51 lakh crores over the duration of the twelfth five year plan which is almost double the amount proposed under the eleventh plan. While the share of public investment is projected to decrease from 62% to a level of 53% in the twelfth plan, the share of private investment is projected to increase from 38% (eleventh plan) to 47% (twelfth plan) of the total investment.[1]

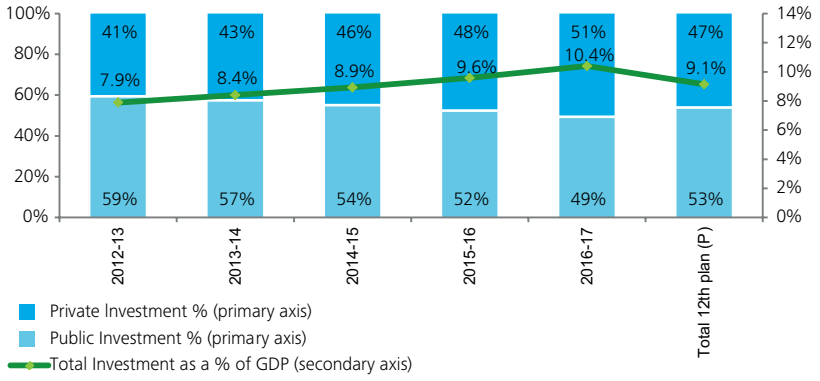
In comparison to eleventh plan, a very significant growth (>100%) in investments (Budgetary & Private) has been projected for Non-Conventional Energy, MRTS, Ports and Storage. All the other sectors are also projected to have an investment growth of >50%.

Planning commission is expecting private sector to play a key role in twelfth plan with an overall investment growth of 131%. Private investment is projected to grow in all the infrastructure sectors with Railways, Water Supply, Storage and Ports projected to grow at >200% whereas investment in other sectors is projected to grow at >100%. Overall private sector investment will be a key to success of infrastructure development under twelfth five year plan.

**Exhibit 9: Projections for investment in infrastructure for the twelfth plan (Rs. '000 crore at 2011-12 prices)**



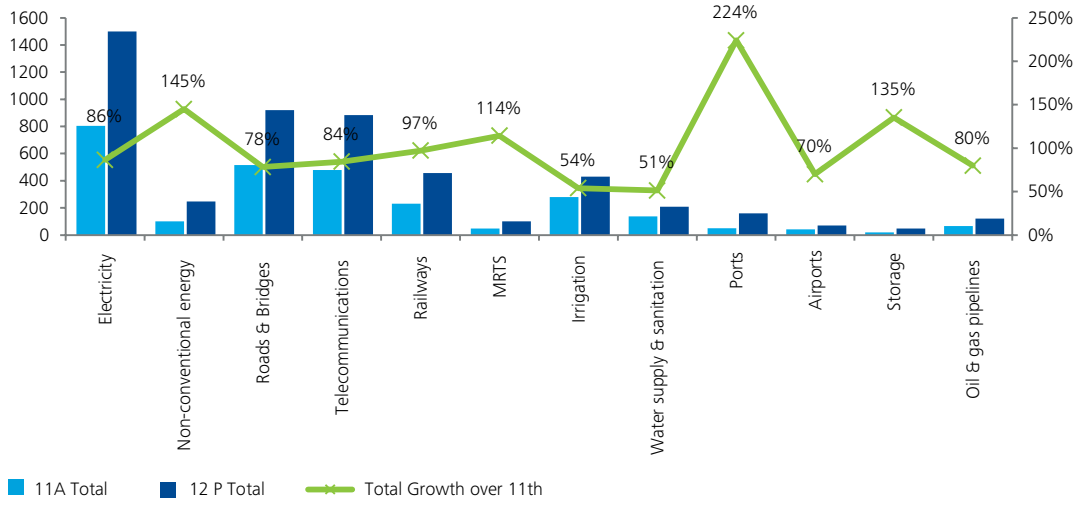

**Total infrastructure investment breakup into public and private investment - 12th Five Year Plan (Projected)**



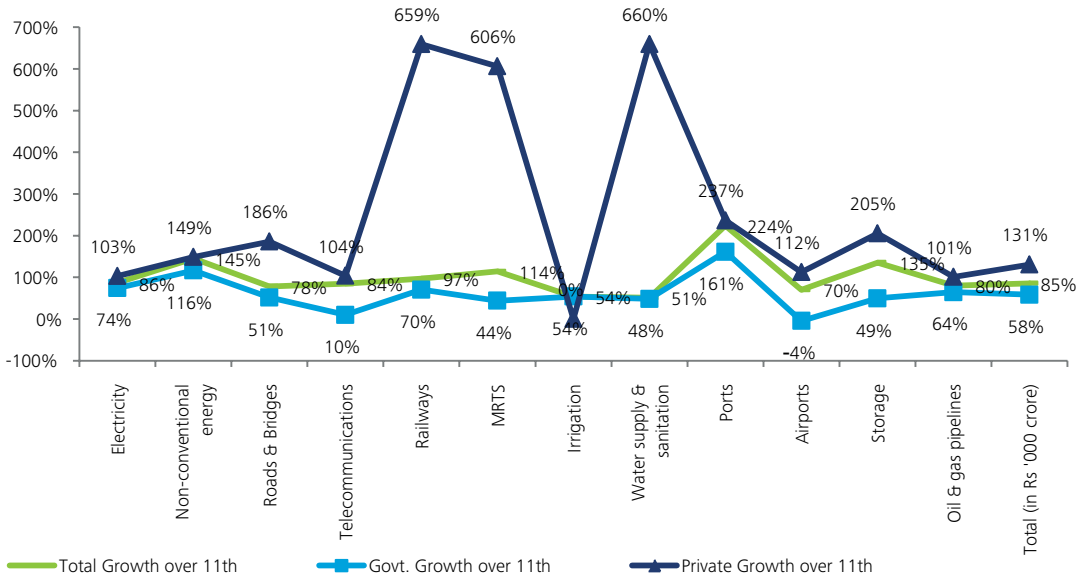

Source - Interim report of the High Level Committee (Planning Commission) - Aug 2012

[1] Interim report of the High Level Committee (Planning Commission) - Aug 2012

Exhibit 10: Sector - wise Infrastructure Investment over 11th (Actual) & 12th Plan (Projections)
(Rs '000 crores)




Sector Wise - Projected investment growth for 12th plan (%)



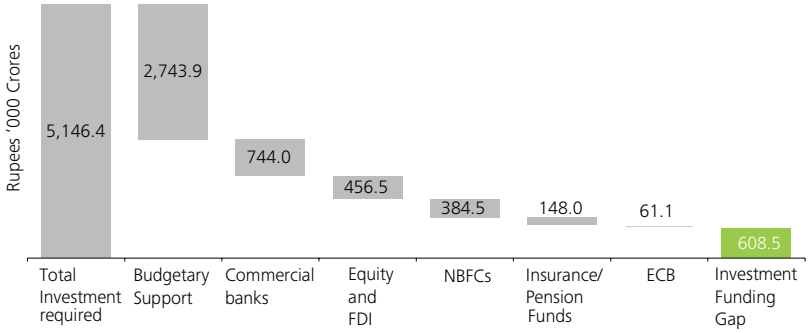

Source - RBI, Interim report of the High Level Committee (Planning Commission) - Aug 2012

# Funding Gap

In twelfth five year plan, planning commission is projecting an investment of Rs.51 lakh crores. About 53% of this is expected to be funded through budgetary support and rest will need to come from private sector funding.[1]

Based on estimated funding flows from various sources and the incremental investment required, twelfth plan will have a huge funding gap and will need to channelize an additional private sector investment of about Rs.6.08 lakh crores over the duration of the plan. This is assuming that budgetary support remains same. In the given macro-economic environment, this will be huge challenge and won't be possible without the radical reforms.

**Exhibit 11: Estimated funding gap**




Source - RBI, Interim report of the High Level Committee (Planning Commission) - Aug 2012

[1] Interim report of the High Level Committee (Planning Commission) - Aug 2012

**Infrastructure investment highlights - other economies**

| Countries | Infrastructure Financing Highlights |
|---|---|
| Brazil | • Brazil's government plans to spend Rs. 28 lakh crores (US$582 billion) from 2011-2014 on infrastructure as part of its "growth acceleration" (PAC) phase 2. Introduced in 2007, PAC laid out investment plans of nearly Rs. 16 lakh crores (US$306 billion) until 2010 to solve many long-overdue infrastructure issues<br>• Brazil aims to give private-sector banks more direct access to government-subsidized loans destined for infrastructure projects.<br>• Brazilian Development Bank (BNDES) provides loans directly to companies investing in infrastructure, guarantees and securities underwriting, and itself buys bonds placed by some corporations. |
| Russia | • Russia's infrastructure investment (2.5% of GDP) continues to lag behind that of other emerging nations due to a lack of adequate investment from the private sector<br>• Most of Russia's financing is in the form of grants and debt relief. |
| China | • Local governments have been one of the major drivers behind China's infrastructure. State owned commercial banks and policy banks hold around 80% of total infrastructure loan portfolios, and bank financing accounts for more than 50 % of total infrastructure financing<br>• China has been successful in attracting foreign investment by providing improved infrastructure and a favorable regulatory environment.<br>• Corporate bonds have become more important, but remain a small share in total financing as the bond market remains underdeveloped. China has many infrastructure SPVs listed in the stock market. |
| South Africa | • Government has spent Rs. 3.8 Lakh crores (US$ 70 billion) on infrastructure over the last three years. It continues to support large-scale infrastructure projects to address transportation, water, and energy sector bottlenecks<br>• Plan to spend Rs.4.9 Lakh crores (US$91 billion) over the next three years, of which Rs.2.4 Lakh crores (US$45 billion) would come from the fiscus, and the rest Rs. 2.5 Lakh crores (US$46 billion) would be drawn from state- owned enterprises.<br>• The value of major infrastructure projects in progress or under consideration in the public sector totals Rs. 21.7 Lakh crores (US$396 billion) |
| UK | • Government plans over 550 projects valued at around Rs. 26 Lakh crores (US$468 billion) upto 2015. This is an increase of over 50 projects and represents an increase of over Rs. 3.7 Lakh crores (US$68 billion) over the 2011 pipeline<br>• National Infrastructure Plan 2011 set out plans to attract major new private sector investment and in July the government announced further support through UK Guarantees. Up to Rs. 3.2 Lakh crores (US$60 billion) in guarantees will be provided to ensure that priority projects in the infrastructure pipeline can raise the finance they need despite challenging credit market conditions.<br>• The government has published full details of a new approach to public private partnerships, PF2. It is a new, faster and more transparent approach to securing investment in public infrastructure.<br>• Government aims to provide an additional Rs. 410 crores (US$ 75 million) to support a second wave of cities in the government's Urban Broadband Fund |
| Japan | Government aims to spend Rs. 5.8 Lakh crores (US$107 billion) for new infrastructure and upgrades over the next 15 months, half of it funded by government debt. |
| US | Government aims to double spending on the infrastructure over the next 6 years to Rs. 26 Lakh crores (US$476 billion) through 2018 on highway, bridge and mass transit projects, funded in part by winding down the wars in Iraq and Afghanistan. |
| EU | The European Commision's infrastructure sectors fund intends to attract private sector investment for vital grid transmission projects through a number of financial risk-sharing instruments, including special lending, project bonds, guarantees and equity investments. |

Source: Various industry sources

# Issues and Challenges constraining infrastructure funding

While there are multiple roadblocks like delays in approvals, land acquisition, and environment clearances etc. impeding the acceleration of the infrastructure development, one of the key one which will be critical for future is the availability of funds.

An important distinction to draw when considering the financial elements of an infrastructure project is that between funding and financing. The funding for a project could be defined as its long-term source of support. In the case of public infrastructure, this may be revenues generated by the project, dedicated tax revenues or general resources of the sponsoring public sector entity. The financing of a project is the means by which the funding is leveraged to provide enough up-front cash to purchase, construct or adapt the project. While there may be many creative financing vehicles available, once the funding structure is established, all of these financing vehicles will be "securitizing" the same project economics.

Based on industry analysis, we have identified key issues and challenges that are thought to be constraining the flow of funds towards infrastructure development. These issues and challenges are as listed below.

### Regulatory & Macro-economic Constraints

Highly regulated investment norms constrain the flow of funding to infrastructure projects.

- NBFCs infrastructure investment growth is limited by their access to bank finance. Tighter prudential limits on bank lending to NBFCs have capped their access to commercial bank funds
- IRDA has set stringent guidelines towards investment in infrastructure bonds. As per the guidelines, the rating quality of investment bonds should not be less than AA whereas a typical non-recourse infra structure project is rated BB. Moreover,75 per cent of all debt investments in an insurance company's portfolio (excluding government and other approved securities) must have AAA rating
- Statutory restrictions imposed by Government of India on infrastructure: Some key restrictions include minimum credit rating for debt instruments and minimum dividend payment record of seven years for equity. These are difficult conditions for private infrastructure projects to meet as they have been set up recently and do not enjoy high credit rating in the initial years
- Equity markets are not favorable for financing projects because of uncertainties in the global economy and due to present regulatory requirements limiting exit options, which hinder equity infusion. Moreover, most infrastructure companies have already diluted their equity in public to raise capital and further dilution is not possible due to contractual restrictions imposed on them
- Sale of unlisted projects is subject to capital gains tax which acts as a disincentive to most equity investors. There is also a growing perception amongst the equity shareholders that the termination payments in the event of government agency defaults are not adequate in most concession agreements
- The PFRDA guidelines allows investment in credit risk bearing fixed income instruments(Asset class C).However, at least 75% of the investment in this category is to be made in instruments having an investment grade rating from at least one credit rating agency. The sectoral cap of 75% of the investment having an investment grade rating under Asset class C scheme, has led to Pension Funds missing on the opportunity to invest in infrastructure projects
- Sovereign credit rating of BBB- limits investments from foreign funds

### Under-developed financials markets

- Absence of a well-developed financial system facil itating long term financing has put additional burden on the banks to fill the void. It is risky and limits the lending ability of banks when they engage short term funds for long investment in Infrastructure projects that have a long gestation period (above 5 years). To offset this bank lends on floating rates which is derived on the base rate. Eventually, the project cost may escalate as it becomes susceptible to interest rate fluctuations
- Lack of derivative market and interest rate derivative market that implies that investors are unable to manage risks efficiently
- ECB imposes all in cost ceiling that allows access only to highly rated companies. Financial intermediaries, such as banks, FIs, HFCs and NBFCs are not eligible to raise sums through ECB
- Almost one third of India's saving rate of 37% is directed towards physical assets. Also, financial savings are not properly channelized towards infra structure projects due to lack of long term savings options in the form of pension and insurance
- Foreign exchange hedging: Foreign exchange hedging is not available for long tenures especially for a period of more than 8 years and even if they are available, they attract high premiums. Foreign investors are not comfortable betting on India for long tenures

### Institutional Constraints

- Most of the life insurance players except LIC have limited non ULIP liabilities that they can deploy in infrastructure. Thus, they face asset liability mismatch in investing long term
- Public insurance companies are inherently very risk averse. They invest mostly in government securities and in publicly-listed infrastructure companies towards meeting their mandated minimum infrastructure and social sector requirements rather than funding infra structure projects
- Most EPC contractors in the country are already working on stretched working capital and debt exposure limits. Moreover, constraints such as labor and manpower shortage, lack of skilled resources, shortage of equipment add to time and cost overruns
- Low ratings of infrastructure SPV's: The level of ratings achieved by SPV's restricts the flow of foreign funds in the form of debt. High levels of risk attached leads to equity investments in place of debt financing. SPV's normally do not have a proven credit history and strong balance sheets. This further affects their ability to secure financing from outside

# The Way Forward

Infrastructure development continues to be the focus area for the government and in the recent past it has introduced various proposals to catalyze investments in the infrastructure sector some of which will require significant infusion of funding through private sector.

In order to mobilize the private funding for infrastructure development a multi-pronged reform process would need to be pursued. In addition to significantly improved enabling environment, focused systemic changes and interventions will be required to be implemented.

We believe that the following key interventions will help improve sourcing of private funding for new and existing infrastructure development projects.

### Credit Enhancement

Credit enhancement mechanisms provide adequate security comfort to lenders for extending debt to infrastructure projects. The need for credit enhancement arises in developing countries due to a variety of risks associated with infrastructure sector projects. These include the fundamental credit (default) risk, inflation and interest rate risk, liquidity concerns due to absence of a secondary debt market and concerns due to political instability. A credit enhancement facility functions as an intermediary and is expected to reduce such risks for the lenders.

A credit enhancement scheme would provide partial credit guarantee to enhance the rating of the infrastructure project thereby enabling channelization of funds from various sources which were earlier restricted from investing in the infrastructure project due to its lower ratings.

Credit enhancement product aims to enhance the quality of long-term bonds issued by infrastructure firms, thereby, making them attractive for investment and enabling them to raise more funds at reasonable price. Multilateral Banks including ADB along with other agencies extend credit enhancements to bond issues of infrastructure firms to improve their credit worthiness.

Credit enhancement through guarantees can address issues related to credit gap rating and risk perceptions and can also help in the development of the corporate bond market and channelize funds from untapped sources such as insurance companies and pension funds.

The credit enhancement should be done at the level of the banks and infrastructure finance companies. Banks and IFCs can raise larger amounts of funds, from newer sources and at better terms in the global markets on the back of credit enhancement mechanisms.

## Developing long term Bonds Market

The creation of a deep and robust debt capital market is a key to making available long term debt instruments for infrastructure. The domestic bond market continues to be dominated by public borrowing and does not address the needs of the corporate sector as in the case of other emerging markets.

This intervention could provide a great opportunity in the near future as interest yields in developed countries have been very poor and asset managers are looking for higher returns in overseas markets. They hold a huge pool of money which could be a good source of funding through international bonds. This though will require robust issuance and trading process.

International pension funds are also looking for long term investments in the emerging economies which have good yields and stable regulatory environment. These pension funds have a huge corpus of funds which they are willing to invest for a quarter of a century or more as this will align with their pension payouts.

To help the development of the long term bond market, planning commission's working sub-group on infrastructure (twelfth plan) suggested the following measures:

**Policy Initiatives**

- Financial:
- Implement uniform stamp duty across the states
- Regulatory:
- Allow banks and domestic FIs to provide credit enhancement for the infrastructure bonds
- Develop regulatory framework for multi-asset CDOs

**Creating Robust Market Infrastructure**

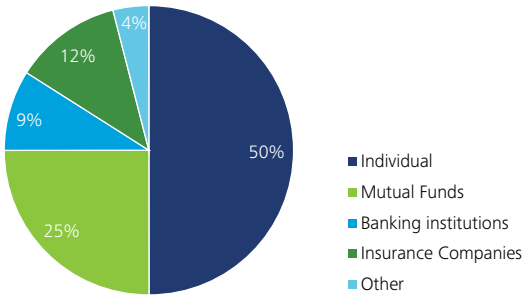
- Establish an integrated trading and settlement system (like NDS order matching system for G-Secs.)
- Move from a DVP I to DVP III system for corporate bonds

One of the options which could be considered is the INR denominated bonds to be issued in the international market. These bonds could be denominated in rupees, while the principal and the coupon could be settled in USD. This will limit the risk of foreign currency fluctuation as all the cash inflows and outflows will occur in USD but the payment will be calculated with reference to Indian Rupee. The issuing company should have a credit rating from an international rating agency as required for such debt issuances and should be settled through an international clearing mechanism. These bonds can also be listed on a recognized stock exchange outside India.

Municipal bonds market has also remained under-developed in India. A push is needed to create a municipal bond market through a concerted effort at addressing challenges related to bond rating, accounting practices followed by the municipal bodies, rationalization of user charges for generating sustainable cash flows needed to service the bonds, creating a secondary market for the municipal bonds. In Indian context, one of the very few examples from past is the municipal bonds issued by Municipal Corporation of Ahmedabad in 1998.

United States has a $3.7 trillion municipal bonds market and is a good example of use of municipal bonds for infrastructure development. In US, most urban infrastructural projects like water supply and sewerage are funded through issue of municipal bonds. Also, the secondary market for municipal bonds is active, with sufficient liquidity. Since municipal bonds are tax exempt, thereby lowering the cost of borrowing of the issuer. The credit rating mechanism of the municipal bonds is very robust, creating a sense of surety and confidence among the investors.

**US Municipal Bonds by Investor Type (Aug 2012)**




Source - Federal Reserve Bank of New York

The federal tax exemption on individuals and its low default rate relative to other fixed-income securities are the two features which have resulted in household investors dominating the ranks of municipal bond holders. As shown above, individuals directly hold more than half, or $1.879 billion.

## Securitization

Securitization refers to the process of transforming financial assets like debt or receivables into marketable securities. The cash flows already accruing or to accrue in future are used to guarantee and service the security. Traditionally, residential mortgages, auto loans, consumer loans, credit card receivables, lease trade credits, corporate bonds and so on have been securitized to provide liquidity and help recycle the funds. Securitization offers two kinds of opportunities for catalyzing financing of investment in the infrastructure sector:

- Securitizing loans extended to infrastructure projects and
- Securitizing receivables accruing or to accrue to an infrastructure project

Loans to infrastructure projects can be securitized in two ways:

- Refinancing of the loans extended by the banks/FIs themselves and
- Pooling and securitizing the loans due to infrastructure project developers

In both the cases, the outstanding loan can be sold to an SPV, which would then issue securities to investors. Securitization of project finance loans could not only help project promoters to secure finance at a lower rate but also make the funds available to lenders for lending to other infrastructure projects. Securitization arrangements provide significant benefits in terms of enhanced credit ratings and market liquidity for infrastructure projects.

Securitization is particularly appropriate when the project has completed the construction phase and is generating income from operation activities. The reduction in risk of the project makes it acceptable to a larger pool of investors. Receivables accruing or to accrue to infrastructure projects are spread over a long period of time and are usually backed by a concession agreement or a power purchase agreement. Further, partial risk guarantees by the government or the multilateral institutions help address the credit risk concern of investors.

Take-out finance is a good way to manage ALM as well as exposure norms for the banking sector. The pooled 'taken-out' loans can also be securitized to bring in long term investors with appropriate safeguards.

## Securitization – The China Example

China has recently allowed banks to securitize loans made to local governments under a pilot program to help ward off potential risks in the banking sector. Category of loans eligible for securitization includes lending to local government financing vehicles, which are set up to borrow money to fund local authorities' spending on infrastructure. Banks' profitability has been hampered by massive loans to these vehicles. By issuing asset-backed securities, risks can be moved away from the banking system. This marks a milestone in the development of asset-backed securitization in the country. Specifically, it allows qualified and approved financial institutions to issue asset-backed securities. The securitization initiative is announced to look for new ways to ease the credit pressure on Chinese banks and free up capital to support growth.

In structuring a securitization under the program, a financial institution will transfer credit assets to a newly formed special purpose vehicle. The prescribed form of special purpose vehicle (SPV) is a special purpose trust or other institution approved by the Chinese banking regulatory commission (CBRC). CBRC allows non-banking institutions, such as insurance companies, mutual funds, and social security funds, to invest in the securities. An SPV will use the proceeds from the assets to pay returns on the securities.

The entire issuing and trading process is supervised by the CBRC. In recognition of systemic risk concerns, the program adds a number of regulatory oversight and risk control measures. First, two credit rating agencies will rate the securitized assets and report their findings to China's financial regulators. Second, an originator must retain a certain portion of the lowest class of asset-backed securities issued in a single securitization, in principle, no less than five (5) percent of the total securities of each issuance, for the duration of such securities. Third, any financial institution is limited to holding no more than forty (40) percent of the total issuance of any security. Fourth, the trustee of an SPV must periodically and publicly disclose the performance of the underlying assets. Finally, the securities must have simple and clear structures

### First Loss Default Guarantee Funds (FLDGs)

This is a good idea, particularly in a situation where the overall supply of funds is adequate but there is a constraint in the supply of total risk capital and the government is seeking to operate within its fiscal limits. As a concept it requires governments to

- stop spending the money required for projects;
- focus on eliminating the effects of uncertainties caused by it and
- to the extent that uncertainties remain, provide risk capital in a manner that preserves the incentives of all the other players to act in a consistent manner

FLDGs seek to provide non-event specific partial credit guarantees to lenders (unlike the partial credit guarantee being explored by World Bank - refer earlier footnote), are limited to only a part of the loan (say 25.0%) and operates on a first loss basis (i.e., in case of 25.0% FLDG the first 25.0% of the loss would be absorbed by the Fund). This manner of providing capital is in many ways superior to recapitalizing existing intermediaries or creating new ones with Government capital

### Currency & Derivatives Market Development

- In order to attract and sustain a large inflow of foreign debt capital into the sector, currency markets need to be further developed. Availability of foreign exchange hedging instruments need to be strengthened as foreign debt investors are wary of betting on the currency of a developing economy for long tenure

- Derivatives-While credit derivatives are needed to facilitate sharing, transfer and pricing of risk, regula tory safeguards need to be put in place considering the experience of the recent financial crisis. There is a need to deepen the interest rate futures market. Market based lending (MIBOR linked loans) will attract issuers and investors to hedge in the futures market

### Banking & Regulatory Interventions

- Review ceilings and caps imposed on insurance companies to mobilize funds for infrastructure development
- Government of India should relax its majority ownership of public sector banks or provide commen surate capital increases in the public sector banks. With poor deposits growth and BASEL III norms coming into play there would be additional pressure on banks to reduce their exposure to infrastructure credit thus impacting the flow of funds for infrastruc ture development
- To make syndication of loans more effective, appraisal capacity needs to be strengthened in most banks
- Banking consolidation could also ease the exposure constraint for individual banks (as many small banks do not have any infrastructure exposure).
- Securitization of the loan portfolios of banks is necessary to spread risks more widely and to enable banks to invest in new projects

# Conclusion

In this tight fiscal environment, private sector participation is seen as a means to bridge the funding gap. This is currently hampered by the significant challenges and risks faced by private sector. Due to change in BASEL III requirements and too much concentration of risk on their balance sheets, PSU Banks may want to reduce their exposure to infrastructure funding in the near term. This would require encouragement of other funding sources (e.g. insurance) and introduction of new instruments to accelerate flow of funding. The government should therefore play a pivotal complementary role of a facilitator, enabler and regulator to allay down the apprehensions of the private sector. It should introduce innovative financial instruments for risk mitigation and should more closely align the nature of infrastructure development with funding sources. This will encourage private sector investment in infrastructure.

# Appendix

## PPP Models – A Perspective

Governments typically have a number of objectives when building infrastructure: getting good value for money, timely delivery, meeting public needs and so on.

PPPs have shown their potential as an important tool to meet these objectives and address infrastructure shortages. For example, they provide new sources of capital for public infrastructure projects. Shifting the responsibility for arranging the financing to the private partner can help deliver infrastructure if a public entity is unwilling or unable to shoulder the full debt or the associated risk of the project at a certain point in time.

### Public-Private Partnerships 101

A public-private partnership, or PPP, refers to a contractual agreement formed between a government agency and a private sector entity that allows for greater private sector participation in the delivery of public infrastructure projects. In some countries involvement of private financing is what makes a project a PPP. PPPs are used around the world to build new and upgrade existing public facilities such as schools, hospitals, roads, waste and water treatment plants and prisons, among other things. Compared with traditional procurement models, the private sector assumes a greater role in the planning, financing, design, construction, operation, and maintenance of public facilities. Risk associated with the project is transferred to the party best positioned to manage it. Some of the most common PPP models are described below.

A. Design-Build (DB): Under this model, the government contracts with a private partner to design and build a facility in accordance with the requirements set by the government. After completing the facility, the government assumes responsibility for operating and maintaining the facility. This method of procurement is also referred to as Build-Transfer (BT).

B. Design-Build-Maintain (DBM): This model is similar to Design-Build except that the private sector also maintains the facility. The public sector retains responsibility for operations.

C. Design-Build-Operate (DBO): Under this model, the private sector designs and builds a facility. Once the facility is completed, the title for the new facility is transferred to the public sector, while the private sector operates the facility for a specified period. This procurement model is also referred to as Build-Transfer-Operate (BTO).

D. Design-Build-Operate-Maintain (DBOM): This model combines the responsibilities of design-build procurements with the operations and maintenance of a facility for a specified period by a private sector partner. At the end of that period, the operation of the facility is transferred back to the public sector. This method of procurement is also referred to as Build-Operate-Transfer (BOT).

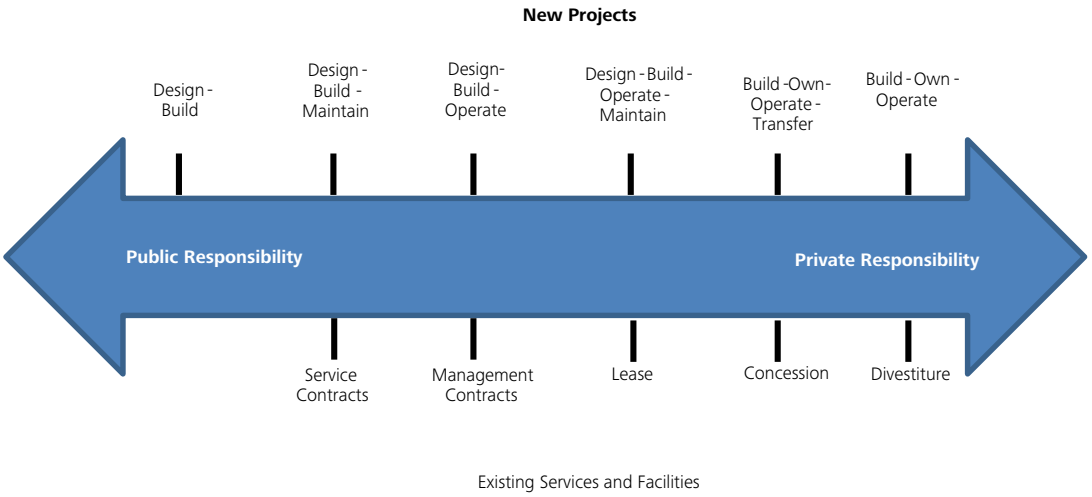
E. Build-Own-Operate-Transfer (BOOT): The government grants a franchise to a private partner to finance, design, build and operate a facility for a specific period of time. Ownership of the facility is transferred back to the public sector at the end of that period.

F. Build-Own-Operate (BOO): The government grants the right to finance, design, build, operate and maintain a project to a private entity, which retains ownership of the project. The private entity is not required to transfer the facility back to the government.

G. Design-Build-Finance-Operate/Maintain (DBFO, DBFM or DBFO/M): Under this model, the private sector designs, builds, finances, operates and/or maintains a new facility under a long-term lease. At the end of the lease term, the facility is transferred to the public sector. In some countries, DBFO/M covers both BOO and BOOT.

PPPs can also be used for existing services and facilities in addition to new ones. Some of these models are described below.

- Service Contract: The government contracts with a private entity to provide services the government previously performed
- Management Contract: A management contract differs from a service contract in that the private entity is responsible for all aspects of operations and mainte nance of the facility under contract
- Lease: The government grants a private entity a leasehold interest in an asset. The private partner operates and maintains the asset in accordance with the terms of the lease
- Concession: The government grants a private entity exclusive rights to provide operate and maintain an asset over a long period of time in accordance with performance requirements set forth by the govern ment. The public sector retains ownership of the original asset, while the private operator retains ownership over any improvements made during the concession period
- Divestiture: The government transfers an asset, either in part or in full, to the private sector. Generally the government will include certain conditions with the sale of the asset so that improvements are made and citizens continue to be served




## Global Trends / Best practices in PPP

### PPP Maturity model

All over the world, public-private partnerships (PPPs) are increasingly being used to finance and deliver infrastructure. One offshoot of the rapid growth of this trend is that countries remain at vastly different stages of understanding and sophistication in using innovative partnership models. Each country and even individual states and localities take their own path in developing infrastructure PPPs.

Many factors play a role in development including local geography, political climate, the sophistication of the capital market, the forces driving formation of partnerships and the factors enabling their creation. Nevertheless, three distinct stages of PPP maturity can be observed across the world.

Many governments are still at the first stage of PPP development. It involves designing the partnership policy and legislative framework, getting the procurements and contracts right and building the marketplace by encouraging the private sector to bid on these kinds of contracts.

After a few successful deals, countries typically move to the second stage of maturity. They begin to expand their use of PPPs to multiple infrastructure sectors. They experiment with sophisticated hybrid PPP models to meet the unique needs of each infrastructure sector. And they establish PPP units in each agency to drive PPP deals.

The third stage is characterized by a deep and sophisticated capital market, robust government capabilities to initiate and manage PPPs and the development of innovative new PPP models. Only a handful of countries-Australia and the UK--have reached this stage. PPPs have been employed across infrastructure areas for a decade or more in both countries, making them a key mode of infrastructure delivery in the country.

Countries at earlier stages of PPP development could benefit from the opportunity to learn from the trailblazers who have moved to more advanced stages: the United Kingdom for schools, hospitals and defense facilities; Australia and Ireland for roads; and the Netherlands for social housing and urban regeneration.

Latecomers to the PPP party can avoid some of the mistakes often made in earlier stages of maturity, such as the tendency to apply a one-size-fits-all model to all infrastructure projects. And they can adopt from the outset some of the more flexible, creative and tailored PPP approaches now being used in trailblazer countries. This approach would allow them to move up the PPP maturity curve more rapidly and leapfrog to more advanced stages of maturity.

## Stage One

- Establish policy & legislative framework
- Initiate central PPP policy unit to guide implementation
- Develop deal structures
- Get transactions right & develop public sector comparator model
- Begin to build marketplace
- Apply early lessons from transport to other sectors

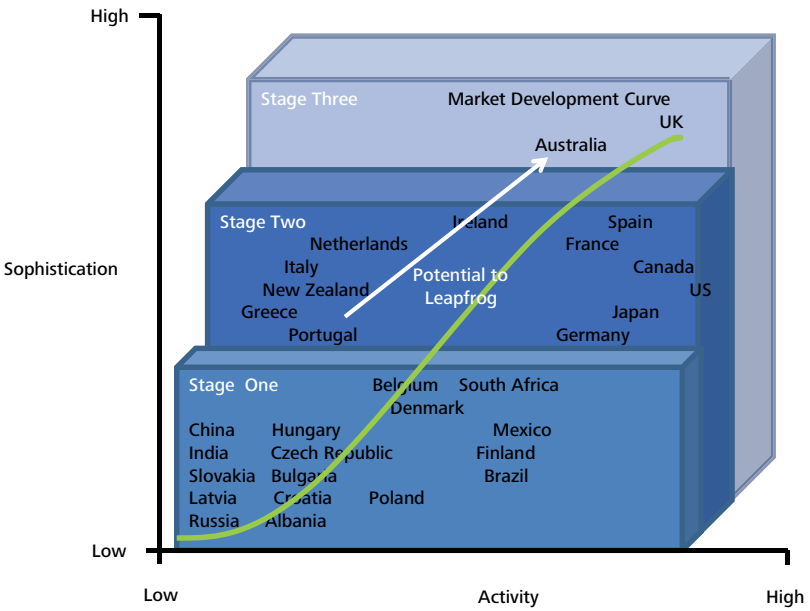
## Stage Two

- Establish dedicated PPP units in agencies
- Begin developing new hybrid delivery models
- Expand and help shape PPP marketplace
- Leverage new sources of funds from capital markets
- Use PPPs to drive service innovation
- PPP market gains depth—use is expanded to multiple projects & sectors

## Stage Three

- Refine new innovative models
- More creative, flexible approaches applied to roles of public & private sector
- Use of more sophisticated risk models
- Greater focus on total lifecycle of project
- Sophisticated infrastructure market with pension funds & private equity funds
- Public sector learns from private partner methods as competition changes the way government operations function
- Underutilized assets leveraged into financial assets
- Organizational & skill set changes in government implemented to support greater role of PPPs

PPP Market Maturity Curve



## Hybrid PPP Models

A variety of new and innovative PPP infrastructure delivery models have been developed in recent years to address various challenges posed to public-private partnerships in specific situations and sectors.

### Alliancing

Under this model, the public and private sector agree to jointly design, develop, and finance the project. In some cases they also work together to build, maintain, and operate the facility.

Where uncertainty about the nature of the infrastructure or services required to meet project objectives is irresolvable (unknown technological risks, for example), using an alliancing model can allow projects to go forward. The aim is to avoid the adversarial relationships and acrimony that sometimes characterize more conventional procurement models, and instead seek to facilitate all parties work together collaboratively for the good of the project.

The Dutch have frequently used alliancing in economic development projects. Such projects often have diverse output requirements (a specific number of social and affordable housing units, designated areas for public space and community centers and a target level of growing economic activities and traffic flow, among others) that require expertise and resources from various public and private partners in order to meet project objectives and share risks. The alliancing model connects flexibility to effective project implementation to overcome the challenge of joint delivery.

### Bundling

It means contracting with one partner to provide several small-scale PPP projects. In order to reduce the length of the procurement process as well as transaction costs. For smaller projects, traditional PPP processes can be particularly costly when weighed against the project's modest revenue streams. This high cost can deter possible private partners from bidding if they feel future revenue is unlikely to outweigh transaction costs. Bidding on building individual hospitals, for example, requires substantial investment but presents relatively small returns compared to the expense of construction and maintenance.

One way to address this problem is by bundling together several projects. By contracting with just one partner to provide several small-scale projects, the public sector can reduce the length of the procurement process as well as transaction costs. In Australia, bundling sometimes takes the form of grouping hospital construction with ancillary structures and commercial activities, thereby creating enough revenue generation to balance against building and procurement costs. Bundling has also been used in Ireland to reduce the problem of disproportionately high transaction costs relative to the capital value of building new schools.

### Competitive Partnership

Several private partners are selected, in competition with each other, to deliver different aspects of a project. The contract allows the public sector to reallocate projects among partners at a later date, depending upon performance. The public partner can also use the cost and quality of other partners' outputs as a benchmark for all partners.

**Incremental Partnership**

The public sector contracts with a private partner, in which certain elements of the work can be called off, or stopped, if deemed unproductive. The public sector can commission work incrementally, and it reserves the right to use alternative partners if suitable.

Under this model, the government enters into a framework agreement with a private sector partner that procures the necessary infrastructure and services on behalf of the public sector. As its requirements become clearer, the government agency can "call off," or stop specific projects if they appear unproductive. The private sector partner competitively procures the services and infrastructure from subcontractors but retains overall responsibility for service levels as assessed against clear performance measures. There is no exclusivity for the private sector partner—the public sector retains the right to use alternative providers if it wishes. This avoids the weaknesses associated with "big bang," large-scale contracts that are difficult to reverse and require a long-term commitment from both parties

**Integrator**

The public sector appoints a private sector partner, the integrator, to manage the project development. The integrator arranges the necessary delivery functions and is rewarded according to overall project outcomes wherever possible, with penalties for lateness, cost overruns, poor quality, and so on. The integrator has a less direct role in service provision and in some cases is barred from being involved in direct delivery at all. In other cases, the integrator is appointed to carry out the first phase of work, or specified works but is then barred from carrying out subsequent phases of work to remove the potential for conflict of interest between achieving best value for the public sector and maximizing private returns through the supply chain.

**Joint Venture**

A joint venture company is set up, a majority of which is owned by a private sector partner. The public sector selects a strategic partner through a competitive process that includes a bid to carry out the first phase of work. The typical contract is for 20 years. Subsequent phases are commissioned by the public sector partner, but carried out by the strategic partner using the first phase of work as a benchmark to determine the appropriateness of future costs. The United Kingdom has used a variant of this model, called local improvement finance trust (LIFT), for its hospital PPPs.

**Global Best Practices**

Leading Practitioners in transport – Australia, Canada, France, Greece, Ireland, Italy, New Zealand, Spain, UK, US

Main PPP Models Employed by them - DBOM, BOOT, Divestiture

Challenges faced by them –
- Demand uncertainty
- Supply market constraints
- Opposition to tolls
- Transportation network impacts
- Competing facilities

There is no single best practice framework for PPPs because of the wide variation in the forms that PPPs can take. However following the points/attributes lead to best PPP practices around the world.

**Clearly defined service requirements**

Clearly defined service requirements tend to present better results from the public sector viewpoint. The resources will not be wasted in generation of services adding little or no value to public using the services. Also results in reduced costs, better recovery, better selection process and completion of project construction in determined time.

**Shorter tender process**

Reduced time lag between the time, bidder bids for project and actually commences construction phase leads into completion of project within budgeted cost. The rise in time and material cost due to inflation could be controlled.

**Co-ordination between central government and local government**

This co-ordination during structuring and implementing PPPs will help deliver a good partnership. By combining the experience gained by central government with local government knowledge of the needs and priorities of its residents and service users you get the best chance of a successful PPP agreement.

**Bringing in international investors**

This will improve the value for money of PPP transactions. By bringing in international expertise it will improve the methods of identifying and reducing risks, besides increasing competition and bringing more innovation

**Avoiding the pitfalls**

The following reasons have been attributed to most of failed PPP projects world over:-

- Unrealistic bids
- Weak business cases and inappropriate assessment
- Mitigation or transfer of risks

These need to be carefully dealt with so that the PPP projects do not suffer from these known banes.

## Myths about using PPP model for Infrastructure projects – A global perspective

Objections to PPPs tend to be markedly similar across countries. For the most part, the main objections simply reflect a sincere desire to protect the public purpose and get the most value for taxpayers. Nevertheless, some of the concerns are driven by a misunderstanding of PPPs, while others are based on outdated or incomplete information.

Following are answers to the most common myths about using PPP model for infrastructure projects.

### Higher Cost of Capital

Government-issued debt is cheaper than the private sector's, making private financing and development a bad deal for taxpayers.

This is perhaps the major objection to PPPs. This line of argument contains some truth, but it also overlooks several important points.

### Difference between cost of capital and cost of debt:

First, the argument assumes that the cost of capital and the cost of debt are one and the same. However, a government's risk adjusted average cost of capital typically exceeds its cost of debt because the public sector takes on project-specific risks such as cost overruns and delays that need to be factored into the cost of capital for each project it undertakes. Moreover, even though the private sector takes on some of the risks of construction, time overruns, and project performance, it can better control its capital costs by making efficient use of resources. The comparison should therefore be between the public sector's cost of capital (to which a risk premium must be added) and the private sector's cost of capital (which amounts to the weighted average of its cost of debt and equity), not between the two sectors' different costs of borrowing. Moreover, the benefits achieved in terms of superior service delivery alone are often worth the extra costs to the government.

### Gap Narrowing:

Second, as the private infrastructure market has grown and financing mechanisms have become more sophisticated, the gap between the public and the private sector's cost of debt has narrowed. For example, with the maturing of the private finance market in the United
Kingdom, the financing costs difference between the private cost of capital and public borrowing is now in the range of only 1-3 percentage points. The additional cost to the public sector should not be significant enough to risk losing the value for money of the project, provided the private sector can deliver savings in other aspects of the project.

### Creative Financing Models:

Last, a variety of financing approaches enables governments to combine their ability to obtain lower interest rates with the benefits of private financing and development. In the United Kingdom, the Treasury launched a program called Credit Guarantee Finance (CGF) to reduce the costs of borrowing to finance PFI (Private Finance Initiative) schemes. Under the credit guarantee program, the government provides funds to the PFI project through cash advances governed under the terms of a loan agreement. The private firm repays these loans to the government after completing the project. The government receives an unconditional repayment guarantee from the private financier for providing this loan facility in return for a fee. In the United States, the Department of Transportation has allocated $15 billion in tax-exempt private activity bonds for qualifying PPP highway and intermodal freight facilities. This approach lowers the private sector's cost of capital significantly, enhancing the investment prospects.

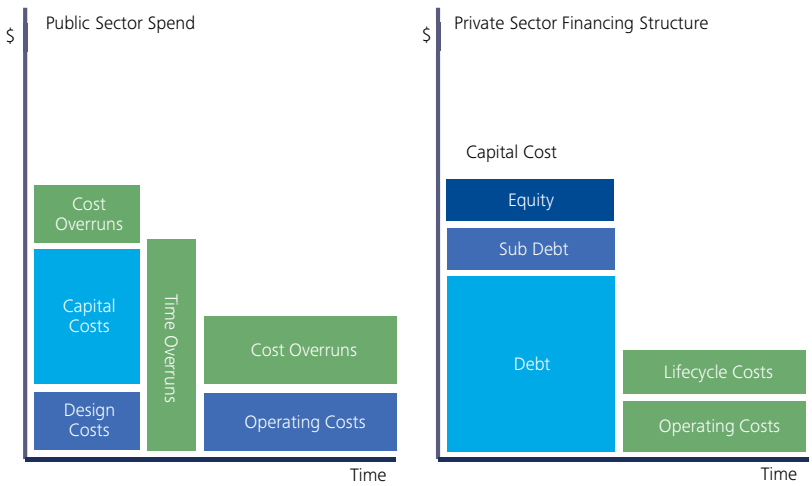
**Failure to realize value for money**

When you combine the higher borrowing costs of private financing with the often higher transaction costs—and subsequent monitoring costs—of engaging in these kinds of deals, the taxpayers end up paying far more than they would have under more traditional public financing.

The issue of value for money should be an important feature of any public infrastructure project, though it gets more emphasis with PPPs. Value for money is based on the theory that the private sector brings in benefits and efficiencies that outweigh its higher borrowing costs. In analyzing value for money, it must be recognized that lowest price does not always mean best value. Value for money is a function of, among other things, price, quality, and the degree of risk transfer. Last, conventional procurement has resulted in very poor value for money, thanks to cost overruns, delays, and so on.

Several factors contribute to value for money, but primary among them is efficient risk allocation. Risk allocation is based on the premise that risk should be transferred to the party that is best suited to manage it. Optimal risk allocation leads to reduced cost associated with risk, which in turn leads to better value for money. Evidence supports the view that PPPs transfer construction and maintenance risk to the private sector more effectively than traditional methods and is likely to deliver value for money where competition is strong and the projects are large. A review of eight Partnerships Victoria projects found a weighted average savings of 9 percent against the risk adjusted Public Sector Comparator. In the case of smaller projects, "bundling" helps to spread procurement costs across several discrete projects.

**Public Sector Costs vs. Private Sector Costs**



**Windfall Profits to the Private Sector**

The private sector sees the opportunity to make windfall profits from infrastructure investments— particularly investment banks and financiers who often receive big upfront fees from refinancing the debt.

Indeed, concession holders will likely seek to refinance their project debt on more favorable terms with a greater amount of leverage. However, this need not necessarily prove a particular problem for governments. For one thing, some of the biggest refinancing gains from PPP transactions came in the early stages of PPP development when the market was less mature and interest rates dropped worldwide to historically low levels. With market maturity, the likelihood of the private sector making huge gains from refinancing falls.

Second, where it makes sense, governments have the option to negotiate with their private partners to share in refinancing gains. Gain clauses can be included in contracts, where the Government's share can be either taken as a cash lump-sum at the time of the refinancing or in the form of reduced service charges. It is important to recognize, however, that such "claw back" mechanisms, while they may make the profits more politically acceptable, may also result in more expensive contracts upfront.

Third, explicit sharing mechanisms don't necessarily have to be built into the contract for the public sector to share in the gains. General approval rights over changes in contracts or financing arrangements, such as termination liabilities, should put the public sector in a strong negotiating position. In numerous cases, government agencies have capped the rate of return of the provider and negotiated revenue sharing arrangements. Both can help in certain cases to enhance the long term political viability of the partnership.

When refinancing gains are not shared, such benefits should reflect reward for effectively managing risk and costs rather than a pure windfall gain. The key thing is to seek an equitable outcome that protects the interests of the taxpayer and is defensible publicly.

**Customers of the Service Will End Up on the Short End of the Stick**

Since the infrastructure facilities often are monopolies, the private sector can raise charges as much as they wish on consumers who end up disadvantaged by PPPs.

This is a complicated issue because historically political considerations have often meant that increases in user fees did not keep pace with the rate of inflation for toll roads and other public infrastructure and their associated operational and maintenance costs. This gap contributes to funding shortfalls and deferred maintenance. One goal for many governments in using PPPs—whether explicit or implicit—has been to move the issue of fee increases away from the political realm so that market, rather than political, considerations can guide fee increases.

That said, governments have several options to limit excessive fee increases and protect consumers of the infrastructure. First, fee increases can be limited by contract to the rate of inflation or some other predetermined rate, a common practice for toll road projects, or the government can retain the power to set rates based on objective criteria. Second, private investment presupposes a revenue stream from which the private investor can earn a return. The revenue stream, however, does not have to consist solely of an interest in tolls or other fees imposed directly on users of the project. In cases where governments want a toll lower than what is needed to service/repay project debt, they can pay an "availability fee" to the private sector to make up for the difference. Great Britain likewise has used "shadow tolling" to support its PFI program.

Governments can also link the payment for the use of the infrastructure to the user's ability to pay. To offset the hardship that particular groups might experience from toll charges, for example, public officials can consider transportation vouchers or other mechanisms, like subsidies, to ease the financial burden, understanding that this will bring in less revenue.

| Category | Financing Type | Characteristics |
|---|---|---|
| User fees, revenue sources | Tolls | Tolls (or similar user charges for use of a facility) are considered a revenue source for a project, thereby providing a stream of payments that the bidders can use to determine their return on investment and to obtain financing. |
| | Shadow tolls | Shadow tolls are typically a means by which the government sponsor can make payments, based on usage of the facility, to the private sector operator. |
| | Availability payments | Availability payments are financial payments from the government to the private partner stipulated in a transaction to make up the difference between the government-imposed user fee (if any) and the cost of usage of the delivered service. Such payments can be in the form of tranches or in one lump sum (such as at the successful completion of the facility or for the agreed-upon maintenance requirements of the facility). |

For sectors where future needs are less certain, like water and waste, the public sector can enter into an arrangement where it buys back the facility from the private partner immediately after it is completed. The public sector can then enter into a long-term leasing agreement with the private sector to operate the facility and sell water to customers at a fixed price. Both the public and the private sector gain from this arrangement and the customer is not adversely affected. The public sector gains ownership of the facility without having to make upfront capital investments; the private sector gains more certainty about its future revenue.

**The Government is Forced to Bail Out PPP Projects When Demand Fails to Meet Projections**

Underestimating future demand jeopardizes project returns and the fiscal solvency of the project itself.

As explained earlier, shifting risk to the private sector is a major part of the rationale for PPPs. In the United States, most road PPPs transfer all or most of the demand risk to the private sector. Down under, Melbourne's East Link project transfers 100 percent of the project risk to the private sector. To be sure, when the private provider faces problems with demand and is unable to continue the contract, it may terminate the partnership, but it cannot take the facility with it. In most cases, the facility reverts to the public sector.

A variation on the conventional DBFO/M is the DB/FO/M model, a two-stage model used in the Highway 407 project in Canada, which has been successful in bringing projects with uncertain revenue streams to the market. The model is usually employed in situations when there is uncertainty about the future needs. Initially the public sector finances a DB project undertaken by the private partner and later sells the completed facility to a private consortium responsible for its operations. This model is dependent, however, on the availability of public funds.

## About ASSOCHAM

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