

## Infrastructure Report: A study on Performance and Funding

### Need and importance

In an emerging economy like India, growth prospects to a great extent are undermined by structural blockages. The pace of growth in provision of infrastructure falls short of overall growth, creating mismatch, imbalance and inequity. On the supply-side, while capital may be invested at an accelerating pace to increase productive capacity, the (marginal) efficiency of capital employed is constrained by the lack of infrastructure. At the end-use point of the consumption cycle, aggregate demand falls short of the required plane due to inadequate creation of wealth at the household level consequent on insufficient generation of employment opportunities.

Infrastructure is hence, viewed as a necessary condition for growth potential to be fully realised – it enhances the business environment prompting greater capital investment, ensuring an improved incremental capital-output ratio at the macro-economic level and a better return on capital invested for the entrepreneur at the micro-level. At the same time strong infrastructure network essentially helps increase the available base of raw materials (both new and existing), increases labour mobility and widens the reach of final consumption goods and commodities to new consumer markets.

### Background

The relevance of infrastructure for India becomes particularly vital in the context of demand-supply mismatches and gaping deficiencies thereof. In this context, this status update examines the performance of various infrastructure sectors in the 11<sup>th</sup> Five Year Plan (FYP 2007-12) and the targets placed in this regard for the 12<sup>th</sup> FYP (2012-17).

Three major components of infrastructure have been looked at this report –

1. Energy and power
2. Transport Services
3. Communication Services

This is followed by an examination of financing requirements, planned finances from various available sources of financing and projected financing gap arising thereof.

#### 1. Energy and power –

##### ***Status: demand-supply conditions***

While India is the fourth largest consumer of energy in the world (after US, China and Russia), its energy endowments fall short of the demand needs, which must be met through imports. Given high development and growth plans (India projected to grow by 8-9% during 12<sup>th</sup> FYP), over-dependence on

energy imports would turn a costly proposition for the country, putting the external account under some stress and increasing vulnerability to external shocks.

An encouraging trend in the energy scenario of the country is increased energy efficiency in the last two decades. With use of improved technology energy intensity (defined as energy input associated with one unit of GDP) has consistently declined, indicating increased energy efficiency and lower elasticity of energy against GDP. With energy intensity of 0.19 kgoe/US\$ as of 2011, India has scope to further improve to match up with Germany's 0.12 kgoe/US\$ and UK's 0.10 kgoe/US\$.

**Table 1: Demand and Supply of Primary Commercial Energy<sup>1</sup>**

| <i>Mn tonnes of oil equivalent (MTOE)</i> | Terminal Year of Plan period |              |               |
|---|------------------------------|--------------|---------------|
|   | 2011-12 (a)                  | 2016-17 (e)  | 2021-22(e)    |
| <b>Domestic production</b>                | <b>513.9</b>                 | <b>669.5</b> | <b>844.2</b>  |
| <i>of which</i>                           |                              |              |               |
| Coal                                      | 222.2                        | 308.6        | 400.0         |
| <b>Net imports</b>                        | <b>196.9</b>                 | <b>267.8</b> | <b>375.6</b>  |
| <i>of which</i>                           |                              |              |               |
| Coal                                      | 54.0                         | 90.0         | 150.0         |
| Petroleum products                        | 129.9                        | 152.4        | 194.0         |
| <b>Total primary energy requirement</b>   | <b>710.8</b>                 | <b>937.3</b> | <b>1219.8</b> |
| <i>CAGR (5 year period), %</i>            | <i>5.3</i>                   | <i>5.7</i>   | <i>5.4</i>    |

Source: Twelfth Five Year Plan

a- achievement, e-estimate/projection

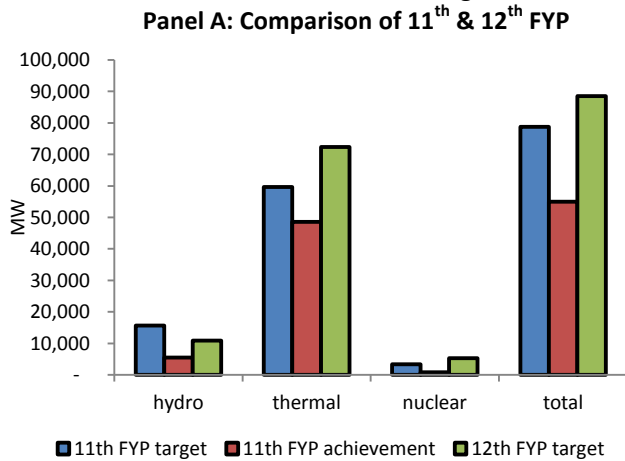
The Planning Commission has projected primary commercial energy requirement at 937.3 MTOE by end of the 12<sup>th</sup> FYP; an increase of nearly 32.0% over the terminal year of previous plan period (2011-12). 70.0% of aggregate requirement of commercial energy was met through domestic production in FY12; the remaining 30.0% being imported. While this ratio has been maintained for demand calculations in the ensuing two plan periods, it is pertinent to note that domestic production is growing at a slower pace than demand, which would increase import requirements. Energy import is projected to grow at a fast pace of 36.0% by 2016-17 (over 2011-12) and further by 40.0% in 2021-22 (over 2016-17). Indeed, if domestic production falls short of the projected growth trajectory, dependence on energy imports would increase further, given the need to maintain overall GDP growth rate.

### **Targets for Energy in 12<sup>th</sup> FYP**

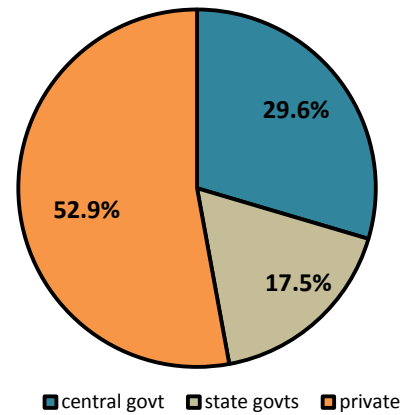
The 11<sup>th</sup> FYP witnessed installed capacity addition of 54,964 MW, just about 70.0% of the targeted capacity addition in the energy sector during the five years of 2007-12. This has brought all-India cumulative generating capacity to 199,877 MW (as on March 31, 2012). The estimated peak deficit gap stood at 11.1% and energy deficit gap at 8.5% at the end of the 11<sup>th</sup> FYP. Although, these deficit gaps come lower than that observed during the previous plan period, it continues to remain high and calls for substantial capacity addition.

<sup>1</sup> Primary Commercial Energy includes coal lignite, crude oil, natural gas, hydro power, nuclear power & renewable energy

**Exhibit 1: Targets and Performance – Installed Capacity Addition**



**Panel B: Ownership of energy assets - 12<sup>th</sup> FYP**



Source: Twelfth Five Year Plan

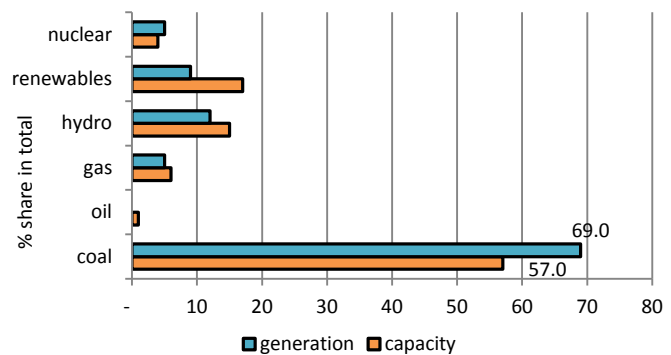
Source: Twelfth Five Year Plan

The Working Group on Power has estimated capacity addition requirement of 75,785 MW during the 12<sup>th</sup> FYP period. The Plan document however, has placed a higher target of 88,537 MW of installed capacity addition to meet both new and existing deficit gaps; this registers a high growth of more than 61.0% over 11<sup>th</sup> Plan achievement. Mode-wise break-up of additional capacity generation estimates, nearly 82.0% in the thermal energy space (most of it from the private sector), followed by 12.3% in hydro-energy and 6.0% in nuclear energy (all of it from the central government).

Fuel generation mix is expected to change only in the long-run. The 11<sup>th</sup> and 12<sup>th</sup> FYP periods would see rather similar structures in fuel supply – coal being the most important (accounting for 69.0% of total generation).

Renewables and nuclear energy is expected to become more important by 2030, accounting for nearly 39.0% of fuel supply in the country.

**Exhibit 2: Projected Fuel structure by 2017**



Source: 12<sup>th</sup> Five Year Plan

Sectorally speaking, the central government would account for 29.6% of additional capacity creation, 17.5% coming from state governments and 52.9% from the private sector. Private sector investment in thermal energy for capacity creation has out-performed expectations in the last plan period; accordingly the same has been pegged at a high level for the next five years as well.

Also, the 12<sup>th</sup> FYP looks at adding to capacity of captive power plants (CPPs) by 13,000 MW. Surpluses from these plants would be fed into the power grid, with tariffs for such surplus power being regulated.

**Table 2: Outlay and Expenditure for Energy (Rs crore)**

During the 11<sup>th</sup> FYP period, utilisation rate of approved outlay stood at 73.03% (estimated expenditure of Rs 4.2 lakh crore).

|           | 11 <sup>th</sup> FYP period |                  | 12 <sup>th</sup> FYP |
|-----------|-----------------------------|------------------|----------------------|
|           | Approved outlay             | Est. expenditure | Target               |
| All-India | 5,72,648                    | 4,18,198         | 11,35,535            |

Source: Twelfth Five Year Plan

Targeted expenditure during the 12<sup>th</sup> FYP period is estimated to be more than 2.5 times that of the previous plan period, at Rs 11.4 lakh crore.

### Challenges

- With roadblocks in the mining and power sector, (delays in clearances and issuance of licenses and other issues), particularly coal-related issues, domestic production has been negatively impacted in the terminal year of the 11<sup>th</sup> FYP and first year of the 12<sup>th</sup> plan until now.
  - Nearly 80.0% of additional generating capacity during the 12<sup>th</sup> Plan period is projected to be coal-based implying that the resolution of issues related to coal-supply to power plants would turn critical.
  - During the 11<sup>th</sup> FYP, power purchase agreements (PPA) for 4 Ultra Mega Power Projects (UMPP) of 4,000 MW each have been signed and 12 more such projects are being planned across the state. These projects are plagued with uncertainties in fuel supply, be it domestic coal or imported coal resources.
- Energy pricing continues to remain both an economically and politically sensitive matter. There has been a tendency to under-price energy, which has not been too efficient – at the micro-level there have been instances of pilferage and adulteration and at the macro-level under-recoveries have depressed production, increased dependence on imports and have adversely impacted balance of payments and government budgets that need to accommodate fuel subsidies.
- The debt restructuring plan presented to state governments for their state power DISCOMS has met with limited success until now, as not all states have agreed to the proposal. States such as Punjab that have an ailing power sector (with high debt and high losses) have not conceded to the plan and are demanding greater compensation to be brought on board.
- The required investment to prop-up transmission and distribution for the power sector has been further estimated at Rs 3.06 lakh crore. T&D investment is imperative for the creation of a national power grid which facilitates supply of surplus power from one state to another easily. This initiative would be truly meaningful only when T&D losses and power theft are effectively curtailed.

### Need for reform and strategy

There is need for speedy and affirmative policy interventions in the energy sector and the 12<sup>th</sup> FYP seeks to target some important decisions during the five year period -

- Alignment of energy-products prices with global fuel prices - this process has begun with deregulation and revisions in diesel and petro-prices in the last year and is crucial to incentivise producers to fully utilise and add to installed capacity.

- To develop a stable and attractive policy regime for private investments (including foreign investments) in oil and natural gas blocks to enhance capacity addition - the Plan seeks to revisit the New Exploration Licensing Policy and contracts for oil and gas in that context. Simultaneously, there need to be initiatives to step up investments in energy assets in foreign countries, especially for coal, oil and gas and uranium.
- Dependence on coal as a major source of energy continues, but there is need to develop the renewable energy base, which going by current trends would contribute only 2.0% to total energy consumption by 2021.
- The creation of new storage capacity and full-utilisation of the same is crucial. Nearly 80.0% of oil supplies in the country are imported, but storage facilities are not adequate. Current capacity stands at 5 mn tonnes, but to ensure a strong build-up of inventories that can help curb disruptions in supply and vulnerabilities to external oil supply shocks storage capacity needs to be enhanced.
- On the consumer-front, introduction of open access would have to be priority. Consumers must be free to purchase electricity through open access in a competitive market and the Electricity Act envisages this option for all consumers. The target for the 12<sup>th</sup> FYP period is to cover all consumers up to 2.5 MW under the scheme.

## **2. Transport –**

The effectiveness of existing transport network comes under question when compared with capacity needs that are estimated to double every decade in the medium term, as also in the context of tariff setting that has been cost-ineffective causing distortions in modal mix and consequent movement of traffic (particularly freight traffic).

### ***Railways***

Indian Railways is the fourth largest railway network in the world in terms of route kilometres, with a total route length of 64,460 km of route length. With increasing demands of freight and passenger movement, the rail network appears deficient in speed, modernisation (of gauge and rolling stock) and safety criteria.

The performance and targets in the 11<sup>th</sup> and 12<sup>th</sup> FYP periods are shown in table 3 below –

**Table 3: Outlay and Expenditure for Energy (Rs crore)**

| Heads   | 11 <sup>th</sup> FYP |             | 12 <sup>th</sup> FYP |
|---|----------------------|-------------|----------------------|
|   | Target               | Achievement | Target               |
| <b>Physical movement – terminal year</b>      |                      |             |                      |
| Passenger (mn)                                | 8400                 | 8139        | 11710                |
| Freight (mn tonnes)                           | 1100                 | 970         | 1405                 |
| <b>Capacity creation – during plan period</b> |                      |             |                      |
| New lines (km)                                | 2000                 | 2205        | 4000                 |
| Gauge conversion (km)                         | 10000                | 5290        | 5500                 |
| Electrification (km)                          | 3500                 | 4501        | 6500                 |
| <b>Outlay and expenditure</b>                 |                      |             |                      |
| Total   | 2,33,289             | 1,92,147    | 4,19,221             |

Source: Twelfth Five Year Plan

### Roads

India has one of the largest road networks in the world, comprising national highways (NHs), state highways (SHs), major district roads (MDRs) and rural roads (RRs). However, the distribution of network and traffic handling is not well-balanced. For instance, NHs account for 2.0% of total road network but handle 40.0% of road traffic. Similarly, the secondary road transport system (SHs and MDRs) account for 13.0% of network whilst handling again 40.0% of traffic.

With a government outlay of Rs 11.4 lakh crore for the 12<sup>th</sup> Plan period, physical targets of road development (both freight and passenger traffic capacity) are targeted to be more than 1.5 times the achievement during the 11<sup>th</sup> Plan.

Additional private sector investments in road projects during the 12<sup>th</sup> Plan are projected to aggregate Rs 2.1 lakh crore.

Also, planned budgetary support for rural roads is kept at Rs 1.3 lakh crore.

**Table 4: Performance of Road Sector in 11<sup>th</sup> and 12<sup>th</sup> FYP**

|                             | Terminal Year of Plan |             |
|-----------------------------|-----------------------|-------------|
|                             | 2011-12 (a)           | 2016-17 (e) |
| passenger (bn passenger km) | 7491                  | 11421       |
| freight (bn ton km)         | 1210                  | 1835        |

Source: Planning Commission

a- achievement, e-estimate/projection

**Table 5: Investment and Outlay for Road Sector**

| (Rs crore) | Expenditure               |                             |
|------------|---------------------------|-----------------------------|
|            | 11 <sup>th</sup> FYP Est. | 12 <sup>th</sup> FYP Target |
| All-India  | 1,58,077                  | 2,09,603                    |

Source: Planning Commission

### Shipping

Indian shipping fleet is characterised by predominance of oil tankers and bulk carriers. However, performance of the shipping industry has not been at its best. The share of Indian ships in India's overseas trade carriage has consistently declined, from 31.5% in 1999-2000 to 7.9% in 2010-11. The pace of vessel acquisition has also been

falling in recent years, due to slowdown in market. This has presented increased need for policy changes in the sector.

Overall projected traffic is expected to touch 1,758 mn tonnes by end of the 12<sup>th</sup> Plan period. Total port capacity by then is projected at 2,289 mn tonnes, sufficient to cover traffic requirements.

The 11<sup>th</sup> Plan had a projected outlay of Rs 30,323 crore; however only 58.3% actually came through. 12<sup>th</sup> Plan target for investment in shipping sector is set at Rs 28,950 crore.

### Civil Aviation

Domestic skies were opened up to private carriers in the second half of the 10<sup>th</sup> Plan through the PPP mode of investment. The 12<sup>th</sup> Plan seeks to build India as one of the top five civil aviation markets in the world. Accordingly, in the first year of the 12<sup>th</sup> Plan (September 2012), the government also moved to further allow for 49% FDI (foreign direct investment) in aviation sector.

Passenger terminal capacity of airports pan-India is estimated at around 230-240 mn in 2012; further expected to grow to 370 mn by end of the 12<sup>th</sup> Plan. Putting together, cargo handling and given investment plans of operators, estimates suggest an additional requirement of 30 airports by 2017 and about 180 functional airports over the next decade.

Utilisation rate of investments in civil aviation during 11<sup>th</sup> Plan has been high at 89.6% of projected outlay and outlay during 12<sup>th</sup> Plan is set at Rs 33,198 crore.

### Challenges

- Stagnancy in efficiency in the transport sector has been noticed in recent years. For instance, as of June 30, 2012, Indian (shipping) tonnage stood at 11.03 mn GT (gross tonnes) and ranks 16<sup>th</sup> in the world, with growth prospects being range-bound without adequate policy changes.
- Reaching an appropriate modal mix for transportation, particularly freight transport has been a concern. India's road network is heavily burdened. 57.0% of the country's goods are transported by roads, when

**Table 6: Shipping & Ports Performance - 11<sup>th</sup> and 12<sup>th</sup> FYP**

|                   | Terminal Year of Plan |             |
|-------------------|-----------------------|-------------|
|                   | 2011-12 (a)           | 2016-17 (e) |
| Traffic (mn tons) | 930                   | 1758        |

Source: Planning Commission  
a- achievement, e-estimate/projection

**Table 7: Investment and Outlay for Shipping Sector**

| (Rs crore) | Expenditure               |                             |
|------------|---------------------------|-----------------------------|
|            | 11 <sup>th</sup> FYP Est. | 12 <sup>th</sup> FYP Target |
| All-India  | 17,685                    | 28,950                      |

Source: Planning Commission

**Table 8: Civil Aviation Performance - 11<sup>th</sup> and 12<sup>th</sup> FYP**

|                         | Terminal Year of Plan |             |
|-------------------------|-----------------------|-------------|
|                         | 2011-12 (a)           | 2016-17 (e) |
| Cargo Traffic (MMTPA)   | 2.4                   | 4.4         |
| Passenger Traffic (mn)  | 144                   | 269         |
| Passenger Capacity (mn) | 230-240               | 370         |

Source: Planning Commission  
a- achievement, e-estimate/projection, MMTPA – mn metric ton p.a.

**Table 9: Investment and Outlay in Civil Aviation**

| (Rs crore) | Expenditure               |                             |
|------------|---------------------------|-----------------------------|
|            | 11 <sup>th</sup> FYP Est. | 12 <sup>th</sup> FYP Target |
| All-India  | 44,121                    | 33,198                      |

Source: Planning Commission

compared with China's 22.0% and 37.0% in the US. There is much scope for a 78.0% shift from roads to rail as mode of transport in case of some commodities.

- A thinning dispersion of available funds has been increasingly observed in the infra-space. This has rendered many infra-projects unviable. Mobilisation of investments has been close to targets only in case of road projects and civil aviation, while many infra-segments such as railways remain out of the purview of PPP projects that could bring in private investment and technical expertise.
- There is near absence of an integrated regulatory framework for tariff setting, competitive pricing and cost of operations.

### **Need for reform and strategy**

- There is need for inter-modal connectivity to improve, which requires integrated planning for the same. Efficient modal mix is now limited as connectivity is absent or inadequate. The Dedicated Freight Corridor (DFC) and the Golden Quadrilateral are expected to help facilitate inter-modal mix more optimally.
- Pricing and fiscal areas need to be re-looked at. Cross-subsidisation between extremely low passenger fares and very high freight tariffs is inefficient. ATF prices for instance, are distorted, being subjected to a multitude of cascading taxes, resulting in a sales tax as high as 30% for ATF.
- There is need for improving and increasing access to ancillary initiatives, such as aviation and maritime training, improving staffing and support ground handling facilities for the civil aviation and shipping sectors.

### **3. Telecommunications and IT/ITES–**

The tele-com sector has been one of the fastest growing sectors in the Indian economy, with telephone coverage (number of subscribers) touching 951.3 mn in March 2012. Annual growth in this sector has been greater than 35.0%, even during periods of global downturn (2008-11). Moreover, rural penetration, with more than 5.6 lakh villages being brought under mobile connectivity, has been tremendous. During the 11<sup>th</sup> Plan tele-density increased from 18.3% (2007) to 78.7% (2012).

Targets for the 12<sup>th</sup> Plan include provision of 1200 connections, increasing mobile network coverage in all 6.0 lakh villages, increasing rural tele-density to 70.0% and targeting 175 mn broadband connections by 2017.

Aggregate government outlay for the communications sector in the 12<sup>th</sup> Plan stands at Rs 1.1 lakh crore (split as Rs 72,110 crore for telecom and Rs 40,022 crore for IT/ITES).

**Table 10: Communications – Performance in 11<sup>th</sup> & 12<sup>th</sup> FYP**

| (USD bn)                   | Terminal Year of Plan |             |
|----------------------------|-----------------------|-------------|
|                            | 2011-12 (a)           | 2016-17 (e) |
| Telephone connections (mn) | 951                   | 1200        |
| Electronic hardware prodn. | 33                    | 69          |
| Software exports           | 69                    | 130         |

Source: Planning Commission

a- achievement, e-estimate/projection, MMTPA – mn metric ton p.a.

**Table 11: Investment and Outlay in Communications**

| (Rs crore) | 12 <sup>th</sup> Plan Outlay |         |
|------------|------------------------------|---------|
|            | Telecom                      | IT/ITES |
| All-India  | 72,110                       | 40,022  |

Source: Planning Commission



### Challenges

- The roll-out of 3G/4G has not been smooth on account of high costs and low levels of subscription. Rural areas additionally, remain mostly out of coverage in case of 3G/4G broadband network. There is need for rationalisation of fees and levies, in order to ensure affordable service delivery to end-users.
- The estimates for hardware production are based on a natural manufacturing growth. However, with the first two years of the 12<sup>th</sup> Plan period (2012 and 2013) already registering deceleration in industrial production activity (1.0% growth in FY13), a slippage in production and consequently export targets may be expected.

### Need for reform and strategy

- Spectrum Trading needs to be examined in the Indian context in order to ensure optimum utilisation of allocated spectrum and ensure spectrum efficiency, boost competitive pricing and provide incentives for innovation. This requires adequate trading platforms and the creation of secondary market for the same.
- Licensing reforms need to be brought underway – be it in the form of issuance of licenses, renewal and transfer of the same and de-linking of licensing with spectrum allocation.
- The viability of PSUs in the telecom space needs to be re-examined. The latest discussions of trifurcation of MTNL and BSNL are aimed at leveraging upon their strengths and assets coupled with financial re-engineering.
- Financing needs in the telecom sector have not been met adequately and the 12<sup>th</sup> Plan makes a case for telecom companies accessing support funding from IIFCL. The 12<sup>th</sup> Plan also seeks to create a Telecom Finance Corporation, as a vehicle for telecom companies to access funds at competitive rates.

### Funding Requirements for Infrastructure during 12<sup>th</sup> Plan

The 12<sup>th</sup> Plan places investment needs at US\$ 1 trillion for infrastructure, nearly double that during the 11<sup>th</sup> Plan (US\$ 514 bn). In (nominal) rupee terms (accounting for 5.0% inflation and exchange rate of Rs 40/\$) this translates to about Rs 65 lakh crore. This number will change by another 50% given the current exchange rate of close to Rs 60/\$.

As a percentage of GDP, infra-investment during the 12<sup>th</sup> Plan period is expected to be 9.95% on an average (at 2006-07 prices).

In current prices, infra-investment is projected to grow at an average of more than 19.0% during the five year phase.

While India's domestic savings are adequate to meet infra-investment needs, they are not all directed to infrastructure.

It is estimated that 21.0% of financial savings in the country need to be directed to infrastructure. Hence, financial savings have to be channelized towards infrastructure, along with increasing scope and depth of available sources of infra-funding.

**Table 12: Infrastructure Investments during 12<sup>th</sup> FYP**

| (Rs cr)                        | FY13      | FY17      | Total       |
|--------------------------------|-----------|-----------|-------------|
| <b>At 2006-07 prices</b>       |           |           |             |
| Infra investment               | 6,19,429  | 10,39,535 | 40,99,239   |
| GDP                            | 68,82,549 | 97,15,280 | 4,11,90,063 |
| Infra investment<br>(% of GDP) | 9.00      | 10.70     | 9.95        |
| <b>At current prices</b>       |           |           |             |
| Infra investment               | 8,88,572  | 18,12,581 | 65,79,463   |

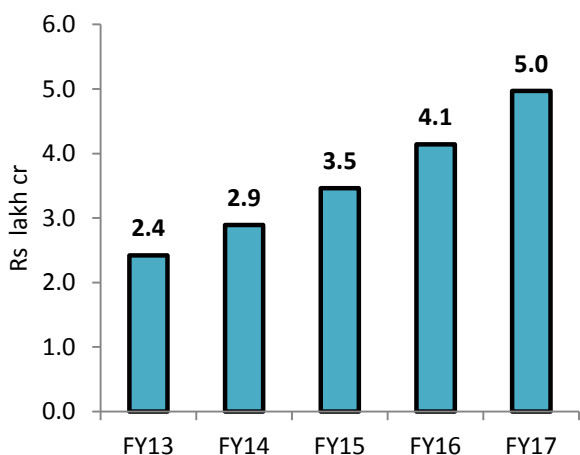
Source: Planning Commission

**Source of infra-funding**

50.0% of funds (Rs 32.5 lakh crore) are expected to be sourced from the government in the form of budgetary support, leaving the remaining 50.0% of required funding to come from the private (including, foreign private) sector, in the form of equity and debt.

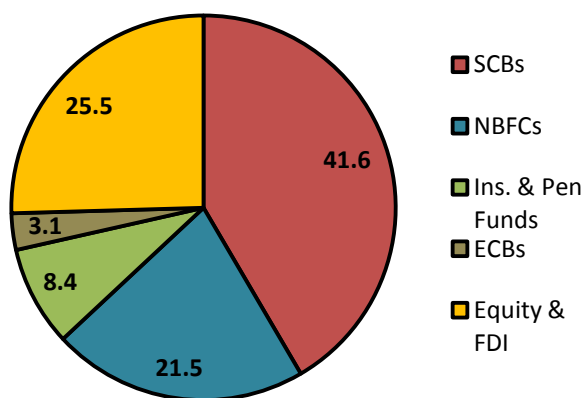
Estimates by the government on available private sector funding for the five year period, aggregate to Rs 17.9 lakh crore; annual investment flows are seen to be rather back-ended. This appears to be a rather likely scenario, given that both FY12 and FY13 have been years of low mobilisation of savings and investments. FY14 is expected to see only a gradual pick-up in investments, more so only in the second half of the year.

**Exhibit 3: Year-wise Pvt. Sector Funding**



Source: Working sub-group on Infrastructure

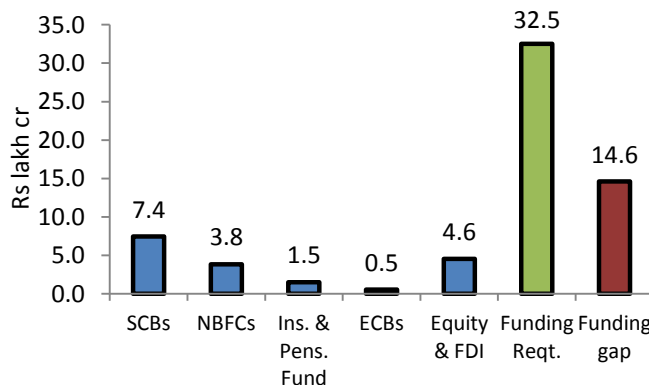
**Exhibit 4: Sources of Pvt. Sector Funding (% share)**



Commercial banks are expected to contribute the most (41.6%) in private sector funding, followed by equity and FDI, NBFCs, insurance/pension funds and lastly external commercial borrowings (ECBs).

Given, estimated requirement of Rs 32.5 lakh crore of private sector funding and available sources to the tune of Rs 17.9 lakh crore, the funding gap arrived at aggregates to Rs 14.6 lakh crore.

**Exhibit 5: Funding Gap**



Source: Working sub-group on Infrastructure, 12<sup>th</sup> FYP

Along with this, the Government has also made provision for the Infrastructure Debt Fund that came into effect with the announcement of Budget 2013-14. The fund could witness inflows to the tune of Rs 50,000 – Rs 1,00,000 crore during the plan period.

**Caveats and concerns**

- **Growth prospects** - with GDP growth touching a low of 5.0% in FY13 and gross fixed capital formation (proxy to investment rate) declining to 29.6%, the first year of the plan has not seen the best economic environment. Economic revival would be only gradual and it may be expected that FY14 and first half of FY15 register below-average growth, when compared with long-term growth trajectory of the country. Slowdown in growth and overall investments implies a deferment of infrastructure development which calls for lumpy investments and are long-gestation projects.
- **Expenditure cuts** - In the event that the government curtails project expenditure in a bid to maintain fiscal balances or the private sector defers its investment plans, as has been observed last year, there could be a discernible slippage in investment mobilisation targets.
- **Exchange rate and valuation of investments** - Projections on estimated financing needs are bound to change on account of exchange rate variations. The annual average rupee-dollar rate stood at Rs 47.9/\$ in FY12, further depreciating to Rs 54.4/\$ in FY13, lately crossing the 60 mark as well, which could very well be the new normal for the rupee rate. Hence, keeping the infra-funding requirement at US\$ 1 trillion unchanged, the value of infra-investments in rupee terms rises to much more than estimated on account of valuation effect.
- **Inflation dynamics** – the assumed rate of inflation has been kept at 5.0% during the plan period. While inflation has encouragingly enough been trending downwards, this target rate could likely be missed by a few percentage points. This could further impact nominal value of investments at the margin, increasing funding requirement to some extent. Additionally, with a depreciating rupee, the rising cost of imported fuels and raw materials is bound to pressure domestic inflation. While fuel price revisions have become more frequent, the pricing of social utilities per se continues to remain sticky and inefficient to resolve concerns on modal mix.
- **Policy intervention** – the fructifying of investments is greatly contingent upon the policy environment prevailing in the country. Clarity in policies and administrative efficiency would be critical determinants impacting investment climate and business confidence in the country. Very recently on June 28, 2013, the Prime Minister in a bid to ramp up investor sentiment set an investment target of Rs. 1.15 lakh crore in PPP (public private partnership) projects across infrastructure sectors in rail, port and power to be achieved in the next six months.
- **External vulnerabilities** – the expected inflow through equity and FDI has been pegged at Rs 4.5 – 6.8 lakh crore during the plan period. Global economic uncertainty in the midst of financial market shocks, mismanagement of government finances, competitive currency valuations and changing monetary regimes would determine the direction of foreign fund flows. External funding for infrastructure is critical to supplement domestic sources. While FDI inflows to the country have been robust, a shortfall in estimated FDI for infrastructure cannot be ruled out in case of prominent external shocks.

**Conclusion**

The current economic environment (both domestic and global) is not particularly conducive and supportive of the massive infrastructure needs planned out in the 12<sup>th</sup> FYP. Performance achievements on physical deliverables and capacity creation, during the 11<sup>th</sup> FYP have in most cases have fallen short of targeted levels and in all likelihood the 12<sup>th</sup> Plan too is expected to see low achievement rates. While the first year, FY13, has been subdued in production and investment activity, much of FY14 is expected to continue in the same mode, with gradual

recovery expected only in the latter half, progress on the 12<sup>th</sup> Plan blueprint appears slow. On the one hand, fund-raising activity is expected to be muted and secondly, even available funds may not entirely be deployed in wait for a more rewarding economic climate.

It may be conjectured, that both physical performance targets and investment trajectory for the 12<sup>th</sup> Plan period will likely be revised during the Mid-term Appraisal of the Plan.

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