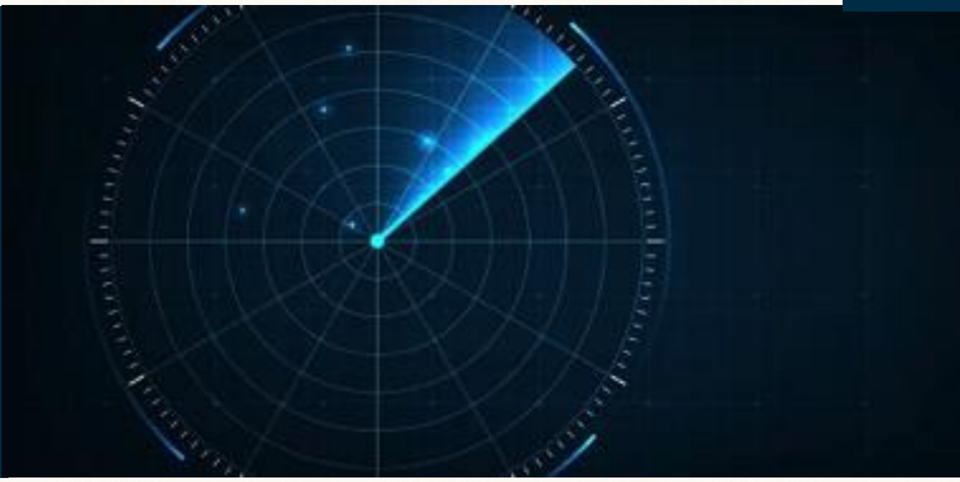
PRIMUS PARTNERS

MONTHLY POLICY NOTE

FEBRUARY 2022

Navigating INDIA



"A budget is more than just a series of numbers on a page; it is an embodiment of our values"
– Barack Obama

INSIDE THIS EDITION

This edition of Primus' Monthly Policy Note focuses on the key areas that will build a strong foundation of India's economy. MSMEs, NIP and NMP, indigenization, and climate change are the current and the future foundational elements for many industries in general and the country as a whole.

While these industries work towards more efficient functioning, the indigenous supply chain needs to be worked upon – critical materials like rare earth minerals which are critical for technology as well as the automotive and aerospace and defence sector. The upcoming budget is expected to directly and / or indirectly further focus on many of these areas.

In our expert section, we focus on developments in the transport sector in our capital region, and how the existing and planned infrastructure is expected to contribute.

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PRIMUS RESEARCH

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Investing in Infrastructure now will ensure that as a country we do not have to pay later!

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Policy Square | A Primus Partners initiative to understand the more fundamental questions in policy making

Primus Partners on 28th December 2021 launched **Policy Square**, in association with Businessworld.

Policy Square, an initiative by Primus Partners, is a monthly expert interview series wherein key constituents of the public policy ecosystem – senior policy-makers, civil society members, business executives etc. – are interviewed on critical issues and policies of national importance and explore their impact on the country and industry at-large.

The motivation for Policy-Square series is driven by Primus Partners' rich policy-regulatory knowledge, as well as experience of delivering projects across multiple sectors, with an aim to leverage this knowledge and create a platform to table in-depth discourse.

The latest episode of Policy-Square, released on Primus Partners YouTube channel, hosted a rich and timely conversation on the Union Budget and what goes on behind the scenes, with Mr. Atanu Chakraborty, Former Secretary, Department of Economic Affairs

Mr. Atanu Chakraborty during the Policy-Square interview, interacting with Mr. Nilaya Varma, CEO Primus Partners…

…touched upon what kind of efforts and deliberations go on in every Union Budget. Being a Policy statement with numbers attached to it, every budget gives a sense of direction to the government's policy measures and Mr Atanu Chakraborty shares his insights on the predictable unpredictability of the budget.

Link to the full interview: [Policy Square S01 E02]

Every month, Policy Square will bring insightful conversations for you around contemporary policies and matters of national importance, speaking with policymakers, civil society, business & industry executives, etc.

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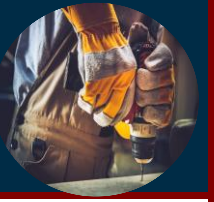
Our take

A very sacrosanct component of any country's economy, and especially for India, every Union Budget carries with it its high pre-release expectations and post-release analysis. The budget gives a direction and the policies are shaped within the contours of the same. Disinvestments are an important tool that can be more efficiently utilized to further increase the playfield for the budget to manoeuvre towards the important focus areas.

Our pre-budget note analyses the most important sectors and puts into context the expectations from the forthcoming budget.

Stay tuned for our post budget analysis also!



Economy update: Interventions to enable MSMEs to thrive

It is like acupuncture – identifying the strategic locations is key!

Supporting the backbone of the economy for economic resilience

The economic landscape of India is defined by its MSME segment which contributes significantly to the economy in terms of GDP, Exports and Employment generation. The Indian MSME sector contributed about 30% towards the Indian GDP during FY 2018-19, generating employment for around 120 mn people. Over the last 5 years, the contribution has grown significantly with 6.3 cr MSMEs contributing to one-third of Indian GDP, thereby becoming critical to India's economic and financial strategy.

33%	50%	97%
Share of MSMEs in Manufacturing Output	MSMEs operate in rural Market	Total employment in MSMEs come from micro segment

Increase in Budgetary Outlay for FY 2021-22

- **Budget Allocation for FY 2021-22 for the MSME more than doubled** to INR 15,700 cr compared to INR 7572 cr in 2020-21
- INR 10,000 cr corpus for **provision of guarantee for borrowings** – a huge relief to the sector
- Provisions for the earlier announced Atmanirbhar schemes (viz. Credit Guarantee Scheme for Subordinate Debt to MSMEs and Fund of Funds) to provide much needed financial succour and accessibility

Given the notable contributions made by this segment, the Government under the Atmanirbhar Bharat Scheme has taken many promotional initiatives within the COVID-19 relief package, including the provision of INR 15,700 cr for the Ministry of Micro, Small and Medium Enterprises (MSME) in the Union Budget 2021-22.

However, given the vulnerability of this segment and differences in exposure to risk and profitability, its recovery from the pandemic will depend on various factors:

- Access to finance
- Product and services markets with different demand revival trajectories
- Stability and consistency in the order book giving a 5-10 year vision to be able to invest in capabilities and capacities
- Availability of skilled and unskilled work force
- Access to export market

Given the uncertainty of the third wave of COVID-19 and limited resources of the Government, the generous increase in budgetary outlay for this sector in FY 2021-22 has provided much needed liquidity. However, it is now important **to develop a vulnerability matrix** to prioritise financial assistance to the beneficiaries.

To strengthen the backbone of the economy, it is paramount to provide **targeted interventions resulting in effective use of government resources**. This will help the Government provide demand-driven support measures.

For instance, enterprises that are export-oriented or are dealing in critical markets having high employment elasticity will need special attention. The matrix can have dual parameters while comparing the relative vulnerability of MSMEs:

1. **Economic Importance**: This parameter will represent the relative contribution of the MSME sector to economic value addition (GVA and employment). Thus, a higher GVA and employment will result in higher economic importance.

2. **Business Risk:** This parameter will represent liquidity of MSMEs i.e availability of cash and cash conversion cycle (CCC) (the time taken for the enterprise to recover its receivables). Lower availability of cash resources along with high CCC, will have higher business risks.

Once such a matrix is tested and formalized to be made applicable in all scenarios, it will be easier for the Government to prioritise beneficiaries based on economic importance and vulnerability of the sector. Another positive side of having this matrix will be to understand the employment in the informal sector as more than 90% of the MSMEs are micro enterprises.

MSMEs as a vulnerable segment would require support measures - both fiscal and non fiscal measures. What the matrix will enable is developing a pecking order with respect to capabilities and capacities along with future potential. An exercise which can also be replicated in the broader strata of industries and services.

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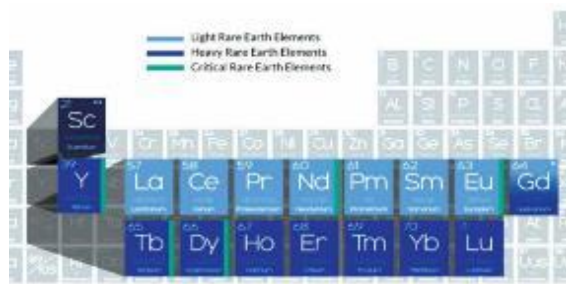
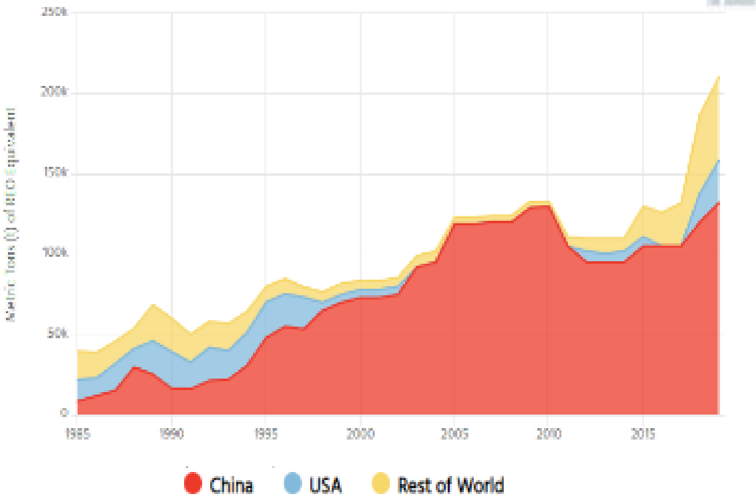
Geopolitics

Rare Earth Minerals:
Is data really the new oil? Rare earths may beg to differ!

Rare earths are a set of 17 minerals that are reportedly imperative for manufacturing smartphones, electric vehicles, weapon systems and other advanced technologies. A global trade value of over a billion dollars does not do justice to their contribution where each Apple iPhone relies on multiple earth elements like neodymium to make magnets for its speakers, europium to produce red colors on screen and cerium to polish – and Apple's revenues from iPhones sales alone exceed much beyond a 100 billion dollars.





CSIS China Power Project | Source: US Geological Survey

Rare earths are available in various regions across the world but in small quantities at most of these places. Moreover, what is more difficult is the extraction, processing and refining part due to a mix of various factors including environmental and technical. To add more context, the Congressional Research Service in a report stated that each US F-35 multirole fighter requires about 427 kg of rare earths, and each Virginia-class nuclear submarine requires nearly 4.2 tons.

The requirement is huge, but reserves are limited and much more limited is the annual production. The global reserves of rare earths reportedly stand at ~115MT with an annual mined production of ~0.2MT, with there being substantial challenges in their extraction, processing and refining'. Rare arths, unlike their name, are reportedly available across e world but the volume varies and moreover their xtraction, processing and refining poses issues including technical and environmental.

To top it all, in this market, China dominates by a wide margin on both the demand and supply side, accounting for ~80% of global rare earth imports annually and having more than a third of global reserves. China's systematic approach of taking control of almost the entire global supply chain has forced countries to change strategy.

So much so that in 2017, the US issued an Executive Order towards a strategy to ensure secure and reliable supplies of critical materials while accepting their criticality to security and economic prosperity. More recently in February 2021, President Joe Biden included rare earths in his 100-day supply chain review.

China's dominance is not ending in the near future at least. Having gradually accumulated technical expertise coupled with low costs, relaxed regulations, and government support, China reportedly has filed more than 80% of the new international patents related to rare earth technology. Companies delivering the balance rare earth supply still send the same to Chinese processing plants for advanced processing work.

India:

Indian Rare Earths Limited (IREL), a PSU, and the Uranium Extraction Division of BARC holds control over the country's rare earth minerals and is responsible for mining and valorisation of REs. The demand in India is expected to exponentially increase courtesy India's ambitions including in electric vehicles, renewable energy, defence, space and electronics manufacturing. Hence, it is important to have a carefully thought through approach.

Possible areas that are being explored and / or can be explored include:

- R&D on magnets requiring lesser rare earths and / or potential substitutes
- More efficient mining methods
- Government-backed efforts to create a complete ecosystem starting with mines till the end product.

Further strategies that can be explored include:

- Acquiring minor mineral assets globally
- Collaborating for joint exploration, refining and trading with relevant companies

Three Indian state-owned organisations — NALCO, Hindustan Copper Limited (HCL) and Minerals Exploration Corporation Limited (MECL) — have established a JV named Khanij Bidesh India Limited (KABIL) to explore, acquire and refine strategic RE metals primarily in Latin American countries. KABIL has also sought EOIs from Indian firms for Lithium ore offtake from their prospective mining facilities.

China has intermittently flexed muscles with respect to the supply of rare earths, but things have not become more serious. However, it will not take time for the situation to change. Hence, it is critical that India looks towards steps to harness domestic capabilities and capacities.

India has ambitious targets in various industries. The supply chain needs to be accordingly built into the ecosystem. The demand is not going anywhere. It is for the supply chain to adapt to meet the demand.

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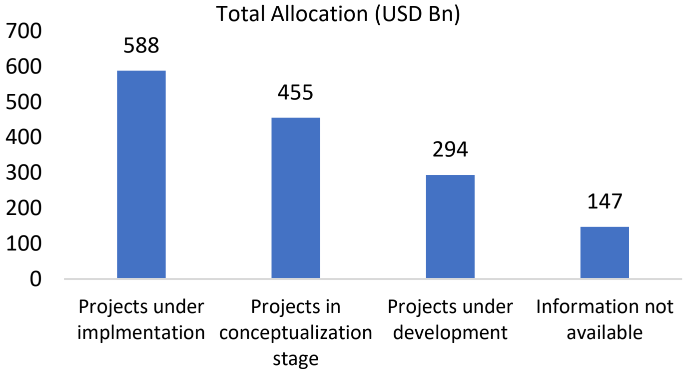
Infrastructure:
Investing now to avoid gaps later

India's ambitious growth target of a $5 tn economy by 2025 is heavily dependent on its development of infrastructure. It is estimated that India's urbanization would increase from 31% in 2011 to around 42% by 2030, and with increasing urbanization, the number of metropolitan cities are expected to increase from 46 as per Census 2011 to 68 by 2030. Increasing urbanization implies greater demand for quality infrastructure that will determine people's quality of life. The Government of India launched the National Infrastructure Pipeline (NIP) to give further thrust to infrastructure development in India. The NIP projects currently stand at 9,300 projects over 34 sectors with an estimated investment of about $1947.39 bn.

Following is the allocation of funds within NIP



A continued push on capital expenditure and roll out of infra projects under the National Infrastructure Pipeline (NIP) will be central to the Union Budget 2022-23. Projects in roads and railways sectors and Nal se Jal scheme are expected to receive a funding boost.

The government is also aiming to invest $750 bn in **railway infrastructure** by 2030. Capacity expansion in railways over the next few years will be critical for increasing India's competitiveness as logistics and freight movement by rail will play a critical role to cater to growing demand.

Rail Land Development Authority (RLDA) is moving forward on Station Redevelopment and privatization of heritage railway lines. **Besides this, more push from the Centre on revamping of the Station Development program, privatization measures including the new dedicated eastern freight corridor, procurement of rolling stock on lease, procurement of aluminum coaches (as part of PLI scheme), and privatization of DMRC routes, with better risk allocation and sunset period are urgently required for the railways sector in India.**

Funding remains the biggest challenge in this sector. The National Monetization Plan is a major step towards funding the infrastructure pipeline.

The idea is to monetize assets of the state and not only leverage these future revenues but also bring in foreign participation including pension funds, sovereign funds and insurance firms that normally invest in infrastructure for the long term. NMP estimates aggregate monetization potential of INR 6 lakh crores (~$80bn) through core assets of the Central Government over a four-year period from FY 2022 to FY 2025.

Bringing in policy and regulatory changes to scale up monetization instruments like InvITs and Real Estate Investment Trusts (REITs) and expand their investor base is critical for the NMP. The government could also look to tweak the capital gains regime including the rates. Reduction in short term and long-term capital gains tax rate would be a good step to promote investments.

The Multi Modal Logistics Parks (MMLPs) are another project that will propel India's infrastructure growth. The 35 MMLPs under the Bharatmala project, being developed under PPP on a Design, Build, Finance, Operate and Transfer mode are being implemented by MoRTH. MMLPs are expected to account for 50% of the road freight in the country, improve country's logistics sector by lowering overall freight costs, reduce vehicular pollution and congestion, and cut warehouse costs.

The key considerations required for setting up such MMLPs include (1) location should be near industrial centers in a continuous area of free land, and (2) rail-road connectivity. From a regulatory and procedural point of view, rationalization of high freight traffic and centralization of approvals would be important to consider. Private participation is key in all infrastructure projects and will also provide a competitive edge to the projects.

Overall, according to experts, the budget this year is expected to continue the momentum with a further increase in allocation given the multiplier benefits that can boost employment and economic development.

India's gross fixed capital formation has been trending lower at ~33% of GDP and the pandemic has impacted it adversely. The government has been making diligent efforts to reverse the trend. Setting up of a dedicated office in DEA to monitor NIP and actioning plans for the NaBFID are good indicators.

Capital recycling through brownfield projects via NMP and greenfield infrastructure development via NIP coupled with creation of suitable infrastructures to meet financing requirements are key to the growth of the infrastructure sector in India.

Infrastructure is an umbrella term that covers a lot of segments including real estate, energy, transport, telecom, water and other social and commercial infrastructure. There are other segments that going forward are expected to also have a significant impact on the country's growth and development. Hence clubbing them under infrastructure will help push the initiatives forward supported by incentives and other benefits. Such sectors include retail, diagnostic facilities, and electric vehicles and allied services like charging infrastructure.

Indigenisation:
Intent gains impetus with definitive actions

To lend further substance to the Positive Lists for Indigenization, on 14 Jan 2022, the DAC, in a meeting to review imports foreclosed some major defence procurement deals on the global route. **It further indicated that henceforth all stakeholders may take an in-principle call of no defence imports going forward**. In further meetings, other possible global projects under process will be considered for cancellation based on recommendations of the SHQ. A policy, based on the decision, is being formulated which will be promulgated to the environment. It is also believed that the **decision will not impact deals which have already been inked under Buy (Global) route or those being pursued under the G2G and FMS route with the US.**

The 'Buy (Global)' categorization is the last in order of preference in the DAP-2020 and subject to intense scrutiny. The concerned SHQ must first justify, to the Categorization Committee, as to why the product cannot be procured in higher categories of procurement from Indian producers. It is only thereafter that the matter is tabled for consideration by the Acceptance of Necessity (AoN) approving authority, which is the DAC and DPB, attended by all stakeholders.

The MoD has gone a step further from the DAP-2020 and the Positive Indigenisation List, making very clear the message for domestic and foreign consumption. The message is emphatic; **1. *for the foreign provider*** – *if they want to reap dividends of the Indian defence market they must manufacture in India independently or in collaboration with an Indian majority company with transfer of technology;* **2. *for the domestic defence industry*** – they *have been given commitment for procurement and thereby MoD expects a positive response in upgrading of capabilities to manufacture niche high technology products;* and, **3. *for the SHQs*** – *global route no longer being an option, systems and procedures to be put in place to enable Indian industry to provide the required quality of product in requisite timeframe. In addition, there is a requirement to optimise in order to modernise.*

The Positive Lists and 74% FDI on the automatic route have not received the desired outcome. **'Intent signaling' needs enabling provisions for indigenisation to be translated into substantial delivery results for the still nascent Indian defence industry.** At the same time, certain issues related with technology sharing must be accepted.

No foreign company or nation would share technology that is on the verge of development and is to be inducted into their own military. USSR/Russia was an exception, but then India has always had a special long-standing friendship that transgressed into many spheres of cooperation with it. **Unless a deep and long-standing relationship with a country or a strategic partnership with a group is established, the Indian Industry would be always a step behind most modern technologies when provided by a foreign power**. **This aspect needs to be factored in the capability building matrix**.

While we can sustain our immediate requirement, in a step towards modernization, with a generation old technology provision, **the apt path is enhancement of our own expertise which may well be with learning from foreign technology providers.** In this, we have not been very successful so far, except for our potent and varied missile technology. At this too, hypersonic is now the modern technology, which we are far from. **This path of technology absorption must be addressed.**

R&D efforts must be bolstered and DRDO must take the lead role in providing focus to the development of core systems, wherein possibly the efforts presently are being dissipated over the entire eco-system.

In this, ***1. The Government can be a part finance provider for development of key technologies and DRDO the coordinating agency*** *which identifies the development partner and facilitates its development.* ***2. Strategic Partnership model should be the lead mode for all major high value and technology products.*** *The Government must play a major role in enabling technology partnership and guidance in development. This allows Indian companies assurance of contract, thereby focus on R&D, financing and identification & enablement of tier 2 & 3 vendors. The entire ecosystem benefits and grows with assured contracts.* ***3. The strengths of the DPSU/OFB and Private Industry with technology facilitation*** *by foreign OEMs, must be leveraged,* and ***4. On the 74% FDI automatic route, for only certain strategic futuristic technology which foreign companies/nations are reluctant to share, the Government must consider inclusion of these foreign majority holding Indian defence companies in the Buy Indian (IDDM) route with retention of IPR.*** *With manufacture of these products in India, the technology and quality control will slowly percolate in the complete Indian eco-system.*

With the unrelenting Dragon on the Himalayan front there is a need to positively lend more credence to military capabilities. This backs up the endeavour at the negotiating table and creates a self-correct in the adversary's mind. **The move of a near ban on global procurement, while needing to be balanced in the short-mid term, is necessary in the mid - long term as self-reliance is what will sustain the country to ward off foreign manipulations of its strategic concerns.** India, as the only country in the Quad with a land boundary with China, follows a conciliatory path while maintaining a resolute posture on the LAC, rather than joining an overtly military pact like AUKUS. **For this path, indigenous capabilities must be synergised quickly while judiciously balancing the source of short-mid term requirements, to forestall adversaries' aggressive intent.**

Till now the MoD has, as per inputs, foreclosed cases of 14 helicopters for the Coast Guard, six additional P-8I Neptune, all-terrain vehicles (ATVs) and short-range surface to air missiles. **While the intent of the Government has been made clear, all stakeholders will watch the steps taken to close other cases, in the channel, which have not yet been contracted.** *We also have the ELBIT Athos case viz the ATAGs on the decision anvil.*

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FPIs in India:
More investments from FPIs will be a positive for Indian economy

FPIs participation in Indian corporate bond is low

Foreign Portfolio Investors (FPIs) collectively invested INR 50,089 cr in 2021, in equity, debt and hybrid instruments. FPIs are critical to the Indian financial markets - generating liquidity and supporting capital needs of domestic companies by investing in corporate bonds or taking up non-controlling stakes. FPI's come under the following categories–

- **Category I -** Government and government related foreign investors such as Central Banks, Sovereign Wealth Funds
- **Category II -** Funds, which are (i) appropriately regulated, or (ii) whose investment manager is appropriately regulated - Includes mutual funds, investment trusts, insurance/ reinsurance companies, banks, Asset Managers, University funds, and Pension funds.
- **Category III -** Endowments, Charitable societies, Corporate bodies, Trusts, Family offices, Individuals

FPIs come under the **purview of various investment limits** depending on the type of asset. Equity investment in domestic companies should be <10% of the company's issued capital, Government securities have a limit of 6% of total outstanding stock, and Corporate bonds have a 15% limit of total outstanding investment in corporate bonds

The government in 2018 increased the limits for FPI investment in corporate bonds from 9% to 15% in an effort to boost liquidity and increase the depth of corporate bond market in India.

Globally, countries with mature-bond markets have generally sustained strong participation from foreign investors. However, **FPI penetration in the Indian corporate bond market is low** comparatively, and multiple market, structural, and regulatory reasons are driving low participation.

Policies to expand long-term investments are increasing operational complexities for FPIs

FPIs are continuing to shy away from investing in NCDs – utilizing only 19% of the limit available to them – hinting towards need for introspection of the policy environment which may be deterring participation. Sustaining strong FPI participation in the corporate bond market is critical for long-term financing of businesses and infrastructure projects.

While RBI has provisioned the regulations to attract more long-term investments in the Indian corporate bond market, the intent often translates into operational complexities, resulting from the requirement to cap "short-term" at 30%, at an end of day basis.

The regulation infers that even when an FPI's past investments made into corporate bonds reach the final year of their maturity i.e., about to mature within a window of 1 year, those investments will be recognized as "short-term" investments (as defined by the RBI) and hence those investments shall be reckoned at 30% of the total investments of that FPI into corporate bonds.

Even in the case of regulations governing FPI investment in bonds which under default (fully or partly), the complexities seem to continue. RBI had first allowed FPIs to invest in bonds that are under default in November 2015. However, the allowance was given while mandating preconditions which in spirit increase procedural complexities for FPIs, to an extent that they are often delayed or dissuaded from purchasing the defaulted bond.

Increasing or removing the 15% limit on corporate bonds can increase FPI participation by at least ~10%

Increasing the limit on NCDs from 15% or removing the limit completely can provide the much-needed impetus to boost FPI participation in NCDs. The Voluntary Retention Route (VRR) introduced by RBI grants FPIs an exemption from macro-prudential and other regulatory requirements (exemptions from the "short-term" investment cap).

Under the VRR Route, FPIs are allowed to invest up to INR1.5 Lakh Cr of the total INR5.7 Lakh Cr corporate debt which is allowed for FPIs. The VRR route, though a good alternative, dries up faster, and FPI's looking to make long-term investments without having to worry about the short-term cap rule are stranded.

Removing the 30% cap on short term investments will help improve ease of doing business in India

Removal of the 30% cap on short-term investments by FPIs will greatly reduce operational complexities for FPIs. RBI has entirely removed this regulation for security receipts and debt instruments issued by Asset Reconstruction Companies and entities under the corporate insolvency process and extending the same to NCDs and corporate bonds would further attract foreign participation in the Indian corporate bond market.

Additionally, in order to meet the goals of the RBI to promote long-term investments from FPIs but keep foreign holdings under check, investment-caps may be maintained which limit the amount an FPI can invest in a single ISIN/ bond.

India's inclusion in the Bloomberg-Barclays and JP Morgan emerging market bond indices will be a keenly tracked activity potentially resulting in increased FPI participation in Government securities and in debt in India. The possible inflows expected to be generated as a result are estimated to be around $10-30bn annually. The move is also expected to drive yields lower in India as global investors begin to trade in select GOI securities.

Adaptation Finance:
Arming India for climate change

Climate change induced heat waves, hurricanes, droughts and rising sea levels are globally resulting in loss of lives and lower standard of living. According to Food and Agriculture Organization (FAO), the frequency and intensity of **climate-related catastrophes has increased resulting in $1.5tn in economic losses between 2003-2013**. This reflects the importance of increasing public and private investments towards climate adaptation measures, especially in highly vulnerable countries like India.

Given the capital-intensive nature of such investments, climate financing for mitigation and adaptation activities is globally gaining relevance. As per IFC estimates, climate finance is a $3.1tn opportunity for India alone while **by 2030, funds upto $1tn would be required for decarbonization initiatives and to increase the country's renewable energy capacity**.

Climate financing in India is being carried out majorly via public funding, i.e., through budget allocation and climate change related schemes such as National Adaptation Fund for Climate Change (NAFCC). Although the **Indian government spends approximately 2.6% of GDP on climate adaptation, there is still a shortfall of $38bn**.

While private funds are another source of climate finance, previous reports have highlighted the heavily skewed private sector investments towards the RE sector. This gap can be bridged by using financial instruments such as climate bonds, particularly for climate adaptation projects. **Currently, a substantial portion of climate finance in India is dedicated to climate mitigation initiatives, with adaptation receiving less than 20% of the funds. This is expected to change in line with the outcomes of COP26 that recognized the glaring gap between current progress on adaptation finance and the needs of developing countries.**

Navigating the issues pertaining to uptake of adaptation finance in India is crucial and the same could be achieved by taking into consideration some of the measures listed below:

Strengthening of regulatory and policy landscape specifically tailored towards climate risks. The intent should be to also enable more private sector investments via incentives and by ensuring consistency in decision making.

Reimagining the role of NAFCC via measures like expanding the scope of the fund to incorporate adaptation considerations in development planning and budgeting. Currently, climate related benefits of government spending are largely unutilized due to operational inflexibilities or absence of localized information.

Development of National Adaptation Investment Plan that can be a national portfolio of investment-ready adaptation investments for private sector and international climate funds. This would also allow the Government to systematically raise climate finance from the market.

Urging states to issue Green Bonds which will make them more visible to the climate responsive investor base. States are increasingly comfortable with market borrowings contributing to ~90% of funds in FY21 (vs 60% in FY16). Considering that most of the financing through green bonds is directed to the energy sector, there is an urgent need for diversification that would enable capital flow to other climate relevant sectors.

Climate specific R&D activities should be mandatorily integrated in project planning thereby contributing effectively to decision making at financiers' level. Use and development of high-level data analytics may also be encouraged at this stage.

As one of the pillars of climate finance, adaptation finance has a key role to play in helping developing countries scale up their climate change adaptation efforts. Although still at a nascent stage, the long-term benefits of adaptation finance far outweigh the issues and barriers associated with it.

It is therefore imperative for governments to invest resources for identification of opportunities that would enhance stakeholders' understanding of adaptation finance as well as increase investment in climate adaptation efforts.

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Efficient mobility can fast track economic growth

Mr Vinay Kumar Singh – MD, NCRTC

Mr. VK Singh is presently leading transformation in regional mobility as the first Managing Director of NCRTC, which is mandated for designing, developing, implementing, financing, operating and maintaining Regional Rapid Transit System (RRTS) projects in the National Capital Region of India. Formerly, Mr Singh was the CEO of the High-Speed Rail Corporation, where he played a key role in developing the Mumbai-Ahmedabad HSR project and finalisation of techno–economic agreement between India and Japan for construction of this line.

India today is exploring multiple avenues in transportation across all modes – be it rail, road, air, or waterways. Do you envision each such avenue having its own sufficient target market to have a business case?

Foremost, I am sure we all would appreciate that efficient mobility is key for economic growth. Not only in India, even if we look towards more developed geographies, we will find that mobility, be it for passengers or for goods, is driven by various modes/ combination of modes of transport depending upon the commodity, price, and time sensitivities. However, there is no dearth of demand for any transport mode. This is also evident from an analysis of density of transport across modes be it rail, road, air, or waterways in the country vis-à-vis the average in developed countries.

Nonetheless, given the limitation of resources and capital-intensive nature of infrastructure, it is imperative to carry out a detailed and realistic feasibility analysis before planning any transport project and ensure that the modes complement, and not compete with, each other. This has been re-emphasized and made **a national priority with GatiShakti Masterplan** by the Hon'ble Prime Minister, the objective of which is to integrate various modes of transport and create complementarities.

Another important consideration, environment sustainability, should be one of the key underlying principles in infrastructure planning. In line with this, **MoHUA has changed the methodology in case of appraisal of Metro/ RRTS projects, moving from financial viability (FIRR) to economic viability (EIRR).**

One example proving the importance of various modes of transport aimed to serve various travel segments, is the implementation of Regional Rapid Transit System (RRTS) in NCR being undertaken by NCRTC. While Delhi and its neighboring areas have seen connectivity via timetabled intercity trains, metro rail, buses, and taxis, what was missing thus far was a high-speed regional commuter network. **This is exactly the gap NCRTC aims to plug in by implementing the country's first regional rail i.e. RRTS**.

NCRTC, a third railway system in Delhi after the National Railways and the Delhi Metro, is targeting to make the slightly disjointed transport system in NCR region more efficient. Could you walk us through the targets that are planned to be achieved?

Regional rails provide high-speed, high-capacity regional trunk commuter network connecting Metropolitan and big cities, towns, and urban nodes across the region.

One step that NCRTC has taken is to integrate the three corridors at Sarai Kale Khan and make them interoperable enabling seamless travel and eliminating the need for passengers to deboard the train when travelling from one corridor to another. This will be transformational for passenger convenience and enhance the impact of RRTS. This network, through multi-modal integration, is seamlessly integrated with national transit networks such as airports and railways on one hand and city level networks like Metro, BRTS and City Buses on the other, creating a network of networks. Thus, regional rails create much needed synergy between national and city level networks in such a way that the entire network of networks complements and acts as feeder and dispersal for each other and incentivizes adoption of public transit systems besides addressing urban issues of congestion, pollution, unmanageable urban sprawl, and migration etc.

While it is a rail-based commuter network with the first corridor being built at a cost of INR 30,000cr, it is very different from what the country has seen so far. With a design speed of 180 km/hr, RRTS is an efficient, reliable, high-speed, comfortable commuter rail service that is targeted at connecting key urban nodes of NCR like never before. With RRTS coming in, the travel time will come down to about a third of its current level.

In phase I, a 383 kms long network of three corridors, converging at Sarai Kale Khan, is prioritized for implementation which will help commuters to move from one corridor to another without changing trains. Seamless connectivity and multimodal integration at RRTS stations are at the core of RRTS planning and implementation. The first of these three corridors, Delhi-Ghaziabad-Meerut RRTS Corridor is 82 km long with 25 stations between Sarai Kale Khan in Delhi to Modipuram in Meerut. The **construction work on the entire 82 km long Delhi – Ghaziabad – Meerut corridor is in full swing and will see trial runs on the priority section early this year with operations opening for the public by March next year**. The entire corridor is scheduled to be operational by 2025.

How do you see the private sector making an impact or playing a role in the RRTS system across NCR and / or in the Railways sector pan India?

NCRTC has tapped into the expertise of the private sector in the implementation of the project. One significant step which we have taken is for procurement of rolling stock bundled with maintenance. So, we are taking advantage of OEM in maintenance of rolling stock which is optimizing the expenditure of rolling stock and other systems. Further, we are going for **Automatic Fare Collection System, which is coming through a hybrid annuity model procurement system.**

Another important attempt that we have taken is engaging a private O&M operator who will not only operate the system but also maintain the sub-systems, be it track, signalling, electrical or mechanical. This is being done for the first time in India. The corporation will continue to guide them to ensure all safety protocols are being followed. Other than this, on the non-fare box revenue side, we are involving private parties in developing and exploiting the commercial potential of our stations.

We take pride that we have got credible and committed partners from the private sector who have experience and expertise of implementing similar projects within India and globally. We have got support from some of the best consultancy firms in the world to fill the gaps wherever needed.

While Delhi / NCR is a densely populated area, the current ongoing pandemic may have a lasting impact at least on the services segment modus operandi. How do you see this impacting RRTS?

At present we are 3 years away from full-scale operations, but the impact has been felt in construction due to supply chain disruptions and reverse labour migration. However, **we are making our best efforts to keep the project progress on schedule. The impact of the pandemic cannot be denied on most of the sectors. However, a clear user-centric approach and planning for behavioral changes is key to minimize such impact**, be it any business. Nonetheless, being in a developing stage as a country as far as adequate transport infrastructure is concerned, the demand may see a short-term dent but not a very significant long-term impact.

In case of RRTS, since the beginning of the project, **we have focused on leveraging cutting-edge technology to enhance customer experience and provide hassle-free safe travel experience to commuters**. We are exploring and will be implementing several path-breaking technological solutions for a better public transport system that prioritizes health and safety. These include cashless and contactless payment system, automated sanitization of lifts and escalators, mobile app for contactless multimodal journey booking, baggage pick and drop, contactless passenger screening (frisking), mm-wave scanners and more.
These technologies are aimed at making the journey on RRTS an altogether different experience. Moreover, being a regional commuter system, this will have its own demand which will bring lifestyle change over the long-term and will not be easily substituted by use of personal vehicles.

To add to the experience and effectiveness, we also plan to leverage an AI-based computer vision system for surveillance and people tracking. The AI-based system will develop a unique identity number (similar to a fingerprint) based on facial characteristics and other features such as clothes. This will enable agencies to track, within seconds, a lost person or child within the system, or track suspects. Automatic abandoned baggage detection will make stations more safe and secure.

Following up on the last question, it would be great if you could share some insight on the steps being taken to incorporate risk mitigation in your plans?

Well, be it such a massive and complex implementation or subsequently operation and maintenance of such a vast system, there are a host of risks at every stage. Having said that, I am confident to share with you that identification and planning for various risks has been an integral part of our strategy since inception.

To start off with, owing to the design speed of 180 Kmph, **RRTS is a first-of-its-kind system in terms of technology, and therefore there is a high technological risk which we have acknowledged and addressed across sub-systems**. Secondly, being a multi-state implementation, it also poses a high regulatory/stakeholder risk which we have taken cognizance of since the beginning.

As a strategy, we take up enabling work before the main construction contractors are handed over work sites so as to ensure encumbrance free ready-to-work sites for the contractors and minimize the uncertainty/ delay risk.

Furthermore, with initiatives like planning the alignment as per travel needs of the potential passengers, extensive multi-modal integration, and adoption of National Common Mobility Card, the focus is on providing holistic solutions for the transit needs of public and minimize revenue risk.

We at NCRTC have taken the initiative of developing a huge network-of-networks of public transit systems via Multi-Modal Integration (MMI) in the NCR. This will be crucial for the long-term sustainability of new-age capital intensive public transit systems. In fact, high-speed regional rail-based systems will be crucial to meet the growing transit needs of the several mega-regions in our country. These mega-regions, like NCR, will be the key drivers of growth for India's overall economic development.

About Primus Partners

Primus Partners has been set up to partner with clients in ‘navigating’ India, by experts with decades of experience in doing so for large global firms. Set up on the principle of ‘Idea Realization’, it brings to bear ‘experience in action’. ‘Idea Realization’— a unique approach to examine futuristic ideas required for the growth of an organization or a sector or geography, from the perspective of assured on ground implementability.

Our core strength comes from our founding partners, who are goal-oriented, with extensive hands-on experience and subject-matter expertise, which is well recognized in the industry. Our core founders form a diverse cohort of leaders from both genders with experience across industries (Public Sector, Healthcare, Transport, Education, etc), and with varied specialization (engineers, lawyers, tax professionals, management, etc).

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